

A Land-Grant University

Auburn University is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award Bachelor's, First Professional, Master's, Educational Specialist and Doctor's degrees.

Auburn University is an equal opportunity educational institution.

AUBURN UNIVERSITY BULLETIN

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NOTE

The statements set forth in this bulletin are for informational purposes only and should not be construed as the basis of a contract between a student and Aubum University.

While the provisions of the bulletin will ordinarily be applied as stated, Auburn University reserves the right to change any provision listed in this bulletin, including but not limited to academic requirements for graduation, without actual notice to individual students. Every effort will be made to keep students advised of any such changes. Information on changes will be available in the Office of the Registrar and/or the Office of the Dean. It is important that each student be aware of his or her individual responsibility to keep apprised of current graduation requirements for the student's respective degree program.

CIVIL RIGHTS COMPLIANCE

Aubum University is an equal opportunity educational institution and operates without regard to race, sex, color, age, religion, national origin, disability or veteran status. The University complies with the regulations of Title VII of the Civil Rights Act of 1964, the Age Discrimination Act, the Age Discrimination in Employment Act, Title IX of the Education Amendments of 1972. Sections 503/504 of the Rehabilitation Act of 1973, the Vietnam Era Veterans Readjustment Assistance Act and the Americans with Disabilities Act of 1990.

EQUAL EMPLOYMENT OPPORTUNITIES

It is the policy of Auburn University to provide equal employment opportunities, including training for personnel mobility, for all individuals without regard to race, sex. age, religion, color, national origin, disability or veteran status.

Anyone wishing to file a complaint covered by the above should go to the Affirmative Action Office in Cater Hall, or call 844-4794 between 7:45 a.m. and 4:45 p.m., Monday through Friday.

SEXUAL HARASSMENT

Sexual harassment constitutes a violation of Civil Rights law as a form of sex discrimination and will not be tolerated by the University. It subverts the mission of the University and threatens the careers, educational experience and well-being of students, faculty and staff.

Sexual harassment in academic settings and in the employment area where students are involved is defined as unwelcome sexual advances, requests for sexual favors and other verbal, graphic or physicial conduct of a sexual nature when (1) submission to such conduct may be explicitly or implicitly a term or condition of a student's academic success or employment, (2) submission or rejection of such conduct may be used as the basis for employment or academic decisions affecting the student and the student's total educational and/or work experience or (3) such conduct has the purpose of effect of substantially interfering with a student's employment or academic performance or creates an intimidating, hostile or offensive work or educational environment.

Students who wish to make a complaint of sexual harassment, or other discriminatory conduct, should contact the Vice President for Student Affairs in Cater Hall, or call 844-4710 between 7:45 a.m. and 4:45 p.m., Monday through Friday.

SMOKING

Smoking of tobacco in Aubum University facilities and vehicles is prohibited except where signs are posted indicating otherwise.

WEAPONS

Aubum University prohibits possession, use and transportation on university properties of any dangerous or potentially dangerous weapons, including fixed-blade knives, shotguns, rifles, handguns, bows and arrows, crossbows, brass knuckles, air guns, swords and fireworks or explosive devices.

Board of Trustees

UNDER THE ORGANIC and statutory laws of Alabama, Auburn University is governed by a Board of Trustees consisting of one member from each congressional district, as these districts were constituted on January 1, 1961, an extra member from the congressional district in which the institution is located, and the Governor and State Superintendent of Education, who are members ex officio. The Governor is President. Trustees are appointed by the Governor, by and with the consent of the State Senate, and hold office for a term of twelve years, and until their successors are appointed and qualified. Members of the board receive no compensation. By executive order of the Governor in 1971, a non-voting student representative selected by the Student Senate serves as a member ex officio.

The Board of Trustees places administrative authority and responsibility in the hands of an administrative officer at Auburn University. The institution is grouped for administrative purposes into divisions, colleges, schools and departments.

MEMBERS EX OFFICIO

FORREST H. JAMES, JR., Governor of Alabama, President	Montgomery
State Superintendent of Education	Montgomery
Student Body Representative, non-voting	Main Campus
Student Body Representative, non-voting Auburn University at	Montgomery

APPOINTED MEMBERS

TERMS ENDING IN 1995

To Be Announced	Sixth Congressional District
ROBERT E. LOWDER, Montgomery	Second Congressional District
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TERMS ENDING IN 1999

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JOHN V. DENSON, Opelika	Third Congressional District
EMORY O. CUNNINGHAM, Birmingham	Ninth Congressional District

TERMS ENDING IN 2003

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Administration

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KENT T. FIELDS, B.B.A., M.P.A., Ph.D. Chairman, General Faculty

University Calendar 1995-96

June 1. Thursday L	
June 13, Tuesday	
June 15, Thursday	
July 3-4, Monday-Tuesday	
July 21, Friday	
Aug. 7, Monday	
Aug. 8-9, Tuesday-Wednesday	
Aug. 22, Tuesday	Final Examinations for Quarte
Aug. 30, Wednesday	Graduation
	ter 1995 is April 15 - August 6.
Sept. 1. Friday	(47 class days)
Sept. 20, Wednesday	
Sept. 21, Thursday	
Oct 10 Tuesday	General Faculty Meeting
Oct. 10, Tuesday	* Registration for Winter Quarte
Oct. 25, Wednesday	
Nov. 20-26, Monday-Sunday	Thanksgiving Holiday
Dec. 1, Friday	Classes end
Dec. 2, Saturday	Dead Da
Dec. 4-8, Monday-Friday	Final Examinations for Quarte
Dec. 11, Monday	Graduation
1996 Winter Quarte	er (47 class days)
Dec. 1, Friday L	ast day for completing applications for admission
Jan. 2, Tuesday	
Jan. 3, Wednesday	
Jan. 15, Monday	
Jan. 27-Feb. 18, Saturday-Sunday	
Feb. 7, Wednesday	
Mar. 8, Friday	
Mar. 9, Saturday	
Mar. 18, Monday	Graduation Graduation
Mar. 1, Friday L	ar (47 class days) ast day for completing applications for admission
Mar. 27, Wednesday	
Mar, 28, Thursday	
Apr. 9, Tuesday	
Apr. 13-May 12, Saturday-Sunday	* Registration for Summer Quarte
Apr. 13-Aug. 11, Saturday-Sunday	* Registration for Fall Quarte
May 1, Wednesday	Mid-Quarte
May 31, Friday	
June 1, Saturday	Dead Da
June 3-7. Monday-Friday	
June 10, Monday	Graduation
** 1996 Summer Quarter (47 class days	s). Eight-Week Term (36 class days)
June 1, Saturday L	ast day for completing applications for admission
June 14, Friday	Orientation for new students
June 17, Monday	Classes begin
July 4-5 Thursday-Friday	Independence Day Holiday
	Mid-Quarte
July 23, Tuesday	
July 23, Tuesday	
July 23, Tuesday Aug. 7, Wednesday Aug. 8-9, Thursday-Friday	Final Examinations for Tern
July 23, Tuesday Aug. 7, Wednesday Aug. 8-9, Thursday-Friday Aug. 22, Thursday	Final Examinations for Term Classes end for Quarte
July 23, Tuesday Aug. 7, Wednesday Aug. 8-9, Thursday-Friday	Final Examinations for Term Classes end for Quarte Dead Day

^{*} Individual schools/colleges will publish advising dates that will be utilized during the University registration period.

^{**} All 1996 Summer Quarter dates are tentative and subject to final approval prior to the 1996-97 catalog printing.

The University

AUBURN UNIVERSITY, chartered in 1856, is located in Auburn, Alabama, and traces its beginning to the East Alabama Male College, a private liberal arts institution whose doors opened in 1859. From 1861 to 1866 the college was closed because of the Civil War. The college had begun an affiliation with the Methodist Church before the war. Due to financial straits, the church transferred legal control of the institution to the state in 1872, making it the first land-grant college in the South to be established separate from the state university. It thus became the Agricultural and Mechanical College of Alabama.

Women were admitted in 1892, and in 1899 the name again was changed, to the Alabama Polytechnic Institute. In 1960, the school acquired a more appropriate name, Auburn University, a title more in keeping with its location, size and complexity. The institution has experienced its greatest growth since World War II, and today enrolls 21,226 students, the largest

on-campus enrollment in the state. The majority are Alabama residents.

Auburn University at Montgomery was established as a separately administered branch campus in 1967. The institution has developed rapidly, especially since moving to a new 500-acre campus east of Montgomery in 1971. The AUM enrollment is approximately 6,100.

Statement of Role

Aubum University, Alabama's 1872 Land-Grant University, has a unique role in the state's total higher education enterprise, embracing and enhancing the interrelated functions of instruction, research and extension. In fulfillment of this mission, Auburn, in its 138-year history, has developed into a premier comprehensive University, offering outstanding, economically accessible instruction to its undergraduate, graduate and professional students, conducting research in an ever-expanding array of disciplines, and reaching a growing number of Alabamians through public service and extension programs.

By striving for excellence in all its activities, Auburn represents a major resource in the state's economic, social and cultural development. In recognition of obligations to society, instruction, research and extension programs are also sensitive to national and global concerns. The primary resource for realizing these goals, as at all great universities, is the faculty; and it is through systematic recruitment, assignment, development, recognition and compensation pro-

grams that Aubum nurtures such a prominent, highly productive professional staff.

Instruction

Auburn offers the baccalaureate in more than 120 areas that span the spectrum of disciplines, and provides the state's only publicly supported programs in many fields, including several in agriculture, forestry, architecture, building science, pharmacy and veterinary medicine. Particularly strong academic programs can be found in the Colleges of Liberal Arts, Sciences and Mathematics, Business, Education and Engineering. Through the years, ROTC programs at Auburn have been nationally prominent in providing leadership for the military. Auburn supports a comprehensive graduate school, providing master's level programs in more than 130 areas and the doctorate in more than 50 fields, many unique in Alabama. Strong graduate programs are found in agriculture, the biological and physical sciences, forestry, mathematics, engineering, education, the human sciences, pharmacy and veterinary medicine. More recently, excellent graduate offerings have emerged in the liberal arts, social sciences and business. As a comprehensive center for graduate education and research, Auburn develops its academic programs to adapt to the changing of modern society.

While Auburn has long been widely recognized for its quality and diversity in undergraduate and first-professional offerings, more recently—and in relation to expanding research efforts—the scope of graduate degree programs has risen to prominence. Evidence of the University's emphasis upon graduate instruction is the projection that enrollments at that level will approximate 16-20 percent of all students by the year 2000. Notable growth will come in doctoral programs and programs with expanded research activity. Graduate-level enrollment growth will be felt especially in agriculture and the biological sciences, the physical sciences, engineering, education, business and the veterinary and pharmacal sciences. At the master's level, larger enrollments will be seen in the social sciences, liberal arts, education, business, human

sciences and the professional programs.

The liberal arts and sciences, at the heart of Auburn's undergraduate instruction, today form the foundation upon which all professional and career programs are built. A core curriculum,

with the goal of providing a common set of experiences for all undergraduates, has always been a prominent Auburn characteristic. Periodically, this set of courses is examined, with the goal of maintaining relevance and the value to the students and their future careers.

Auburn strives continuously to provide the highest possible quality in all its academic programs, and has become recognized nationally as an institution delivering quality instruction at nominal cost. Given the diversity of offerings and the magnitude of the enterprise, a variety of teaching approaches is employed, styling instructional methodology to the nature of program content. Increasingly, modern electronic technology is employed to provide experiences that will benefit the graduate. Because of high academic aptitudes of incoming students, accelerated learning opportunities are important components of instructional programs.

Research

Research, a central element of Auburn's mission, has reached maturity in recent years. Auburn routinely ranks among the nation's top universities in various categories of research expenditure, and is Alabama's only Research University, as categorized by the Carnegie Foundation. Because of statutory responsibilities in the agricultural-natural resources-biological sciences arena, these programs always will represent a major focus of research emphasis at Auburn; however, long-term commitment to engineering and the physical sciences has made these disciplines primary research concentrations. Growing research programming in education, veterinary medicine, pharmacy, the liberal arts and human sciences are receiving added attention and will become more visible. Finally, programs in business, architecture and design and nursing are undertaking efforts to expand research capability.

Space limitations preclude effective identification of all major research thrusts; however, outstanding results are being realized in aquaculture research, the Space Power Institute, the Microelectronic Center, the National Center for Asphalt Technology, the Agricultural Experiment Station, forestry research, the Engineering Experiment Station, pulp and paper research, advanced manufacturing technology and the molecular genetics research program. Evidence of the impact of research results upon Alabama's agricultural, forestry and other industries abounds.

Auburn's research endeavor is diverse and comprehensive, at once focusing both upon developing solutions to major problems confronting humankind and expanding the universe of knowledge. Research attention might be as practical as increasing the margin of profit of the producer, or as theoretical as interpreting ancient manuscripts. All of this together produces an environment enhancing the state's economic, cultural, social and intellectual development and, at the same time, undergirding the University's undergraduate, graduate and extension programs.

Outreach

Auburn University meets many practical needs of community, business and family by putting its knowledge base to work for Alabama through its Outreach mission and a unique statewide network of professionals, facilities and technology.

Across the state, the Alabama Cooperative Extension Service links AU's resources directly to the people through offices in each of Alabama's 67 counties. These offices are part of a comprehensive communications and satellite network with the campus, a distribution system for hundreds of publications, and a contact point for more than 800 staff professionals.

On campus, University Outreach staff and participating faculty from each of Auburn's schools and colleges provide expertise and resources. Interdisciplinary centers include Distance Learning & Outreach Technology, Outreach Information & Marketing, the Outreach Program Office, the Center for Governmental Services and the Center on Aging. A number of outreach units are headquartered in the schools and colleges. Drawing on this university-wide expertise, Auburn's Outreach programming addresses crucial issues such as economic development, youth at risk, excellence in government, continuing education for professionals, improving quality of life, enhancing agricultural resources and protecting our environment.

Many Outreach programs use the Auburn University Conference Center, a state-of-the-art educational meeting facility featuring advanced audio/visual and computer technology in a beautiful and comfortable conference setting. The Auburn University Satellite Uplink provides C and Ku-band satellite capabilities for both national and international transmission of video programming. A microwave link telecommunications system connects Auburn University at Montgomery users with the satellite uplink. Through this comprehensive university outreach, Auburn is having a positive impact on people's lives.

Purpose of the University

Based on its Statement of Role, Auburn University is dedicated to these purposes which have been approved by the faculty and the Board of Trustees:

Providing for its students, a broad general education, enhancement of personal and intellectual development and specialized education through the University's undergraduate, professional and graduate programs;

Preparing graduates whose knowledge, intellectual discipline, and experience in the multiple aspects of our culture will be manifest in service to the people in this state, the nation and the world;

Conducting a broad program of research, both basic and applied, to stimulate the faculty and students in the quest for knowledge, to promote their intellectual growth and development, to broaden the foundations of knowledge, to increase understanding of our world, and to aid society in resolving its scientific, technological, economic and social problems.

Creating and implementing effective programs of education and service that will provide special assistance throughout the state and the nation through the extension of the scientific, professional and cultural resources of the University to individuals, communities, institutions and industries, thereby contributing to an improved technology, better environmental and health conditions, enhancement of the general quality of life and the development of a more responsible citizenry;

Fulfilling the University's responsibilities for instruction, research, and service in science and technology, including agriculture and engineering and programs in biological sciences, mathematics, physical sciences, social sciences and statutory mandate for the Alabama Agricultural Experiment Station and the Alabama Cooperative Extension Service;

Encouraging scholarly and creative efforts in the arts and humanities so that the University may serve its students and the larger community as a vital source of general education and cultural enlightenment and as a stimulus toward participation of an educated citizenry in all avenues of life;

Fostering programs of education and research in those professional curricula uniquely or traditionally associated with Aubum University.

Auburn University is committed to reassessing its objectives and programs continually to assure their consistency with new knowledge and changing economic and social conditions and to seek more efficient and imaginative means of fulfilling the University's purposes.

Libraries and Archives

The main library on the campus is the Ralph Brown Draughon Library, a 377,000 square-foot structure with a seating capacity of 2,500 and shelving space for about 2.5 million volumes. Branch libraries are located in the College of Veterinary Medicine and the School of Architecture. The Draughon Library houses the Special Collections, which includes material about the University, Alabamiana, rare books, maps, theses and dissertations. The library is also home for the University Archives, a collection of University records and archival and manuscript material relating to Alabama history.

The collections include more than 1.9 million volumes, more than 2 million items in microformat, 1.4 million government publications and 134,000 maps. The libraries receive more than
19,000 current serials, including 160 newspapers. In addition, as a U.S. government documents depository library, Auburn receives publications issued by the U.S. Superintendent of
Documents, the U.S. Department of Energy, the U.S. National Aeronautics and Space Administration and the bulletins of the state agricultural and engineering experiment stations. It also
participates in the depository programs of the U.S. Defense Mapping Agency, the U.S. Geological Survey and the U.S. National Oceanic and Atmospheric Agency.

Auburn University Libraries' on-line system, AUBIE (Auburn University Bibliographic and Information Exchange), provides users with access to materials through the on-line catalog, LUIS, and through several on-line periodical databases.

LUIS lists all books, journals newspapers and most government publications the library holds, while various periodical databases contain references to selected journal and newspaper and research reports on humanities, social sciences, science, education, business, psychology and engineering subjects. All AUBIE databases may be searched by keyword, subject, author and title, and are accessible from terminals in the library, department offices, through telnet or gopher connections or from microcomputers anywhere using telecommunications software and modems.

A fee-based service involving on-line searching of bibliographic databases is available to faculty, graduate students and others. Researchers have access to more than 600 databases

from vendors including Dialog, BRS, National Library of Medicine, Orbit, STN International, RLG, Wilson and WESTLAW. Selective dissemination of information (SDI) searches and a variety of CD-ROM databases are also available to researchers.

The Draughon Library contains 306 carrels for faculty and graduate student use, a room equipped for listening to a collection of approximately 7,000 sound recordings or viewing videos assigned for classroom purposes and an instructional microcomputer classroom. Photocopiers are located in a central photocopying facility on the second floor of the main library, as well as on each floor of the library and in both branches. Other services available to library users include course reserves and interlibrary loans, as well as reference service and library use instruction by subject specialist librarians.

Circulation of library materials is fully automated through combined use of the on-line catalog and a barcoded user identification card. Borrowing privileges are extended to enrolled students; members of the administrative, research, instructional and extension staffs of the University; student and staff spouses; and active alumni association members. Alabama residents over the age of 18 may obtain borrowing privileges for an annual fee of \$25. The libraries also have reciprocal borrowing agreements with the schools in the University of Alabama system and Auburn University at Montgomery.

Division of University Computing

The Division of University Computing (DUC) provides university-wide computing and networking services to the students, faculty, staff and administrators of Auburn University. DUC services for these client groups fall into four categories: computers, network services, information systems and user support.

DUC provides two time-sharing host computers, an IBM parallel processor mainframe and a Sun UNIX system. Nine Public Access Computing Sites (PACS) are located throughout campus with UNIX workstations, Macintosh and PC/Windows desktop computers. A library of general purpose software is available on each of these computers; all DUC computers are connected to the campus network. Accounts on DUC computers are free of charge to students and qualified AU employees. Computer accounts remain active as long as the account holder is enrolled or employed by the University; students may activate their own accounts through the computers in the DUC PACS. In addition to the on-campus computers, a Cray supercomputer and an NCube parallel machine are available on the Alabama Supercomputer Network.

Network services provided by DUC include Gopher, World-Wide Web, anonymous FTP, Usenet News servers, electronic mail, X.500 directory, and network printing and plotting. A dialup modem pool is available for remote access to the campus network and DUC provides dialup software free to AU students and employees. Accounts on DUC computers allow access to external networks such as ASN, SURANet and the Internet. DUC also offers planning assistance, backup support, managed servers and office automation software for departmental networks.

DUC provides development, maintenance and production support for the University's major operational and management information systems, including student, financial, human resource and facilities systems. Access to these systems is available to authorized users through the on-line Administrative Information Management System (AIMS). A publicly available version, know as Public AIMS, is accessible without an account and provides a variety of general information about the University. The DUC Voice Automated Information System (VAIS) is a telephone-based system for on-line student registration and grade and financial aid inquiry. The Library's card catalog and bibliographic index system, AUBIE, also runs on the DUC mainframe computer, AUBIE is accessible from the campus network and dialup without an account.

DUC user support includes consulting, training and documentation. In addition, DUC publishes a quarterly newsletter, *The Computing News.* The DUC Hotline (844-4944) provides a central contact point for information, answers to questions and problem resolution. DUC has established software site licenses and microcomputer discount agreements which may be used for purchases by AU students and employees, as well as by university departments. In addition, special purpose equipment such as scanners and graphics devices are available in DUC for use on a reservation basis. DUC also provides a test scoring/analysis service for instructors. The DUC office is located at 26 L-Building.

The Division of University Computing is a central service organization and does not conduct an academic program. Inquiries concerning computer curricula should be directed to the College of Engineering or the College of Business.

Student Affairs

THE DIVISION OF STUDENT AFFAIRS, under the direction of the Vice President, administers services and programs for students, faculty, staff, and alumni. Departmental areas within this division include Admissions, James E. Martin Aquatics Center, Foy Union, Recreational Services, Registrar, Special Programs, Student Activities, Student Development Services, Student Financial Aid, Student Health Services and Student Information Services.

Admissions

Auburn University, an equal-opportunity educational institution, does not discriminate in its admissions policy on the basis of race, color, sex, creed, handicap, age or national origin. Preference is given to the admission of Alabama residents at the undergraduate level; in considering applications to professional schools or programs with restrictive admissions policies, the length of residency in the state will be a factor.

Applications from out-of-state residents are accepted for all curricula; however, the number of non-residents admitted is determined by the availability of facilities and faculty.

Application to any undergraduate school or curriculum of the University must be made to the Admissions Office, Attention: Records Area, Auburn University, Alabama 36849-5145. Application forms and instructions can be obtained from the Admissions Office. Application to the Graduate School or the School of Veterinary Medicine must be made to those schools.

Individuals may apply for entrance to any quarter of a calendar year as early as June 1 of the preceding year. Applicants to Veterinary Medicine and Pharmacy will be admitted in the Fall Quarter only. Because of the large number of applications, credentials should be submitted at the earliest possible time. In all cases, complete credentials along with the medical examination report must be filed at least three weeks before the quarter's opening. The University reserves the right to establish earlier deadlines should circumstances warrant.

A \$25 processing fee, payable by check or money order, must accompany all admission applications and is neither refundable nor applicable to other fees. Responses on the application forms and on related materials must be complete and accurate; entrance may be denied or registration cancelled as a result of false or misleading statements.

Applicants may receive provisional acceptance after they submit the application form and current academic documents. However, they must complete and return a medical examination report form provided by the University, at least three weeks before the quarter opens. The University may require additional medical examinations, and it may refuse admission to individuals whose health records indicate that their health or the University community might be adversely affected by their attendance. All applicants must certify that they have registered with the Selective Service Board or that they are not required by law to register.

Each applicant must furnish satisfactory evidence of good character. The University may deny admission to those whose presence is deemed detrimental to the institution or its students.

Admission of Freshmen

Enrollment limitations for freshmen have been established by curricula and schools, in proportion to available faculty and facilities. Favorable consideration for admission will be given to accredited secondary school graduates whose college ability test scores and high school grades give promise of success in college courses.

All secondary school students planning to apply for admission to Auburn should emphasize the following high school courses: English, mathematics, social studies, sciences and foreign languages.

High school curriculum requirements

English	. a quitamente	d veers
Mathematics		
Algebra I and Algebra II		
Geometry, Trigonometry, Calculus, or Analysis		
Science		2 years
Biology	(1 year)	
Physical Science	(1 year)	
Control Charles		

Recommended: one additional Science, one additional Social Studies and one Foreign Language

Applicants are required to present scores from either the American College Test (ACT) or the Scholastic Aptitude Test (SAT) of the College Entrance Examination Board. High school students may secure application forms from their principals or counselors. Scores on these tests are used as a partial basis for admission, for placement in English, chemistry, mathematics, and for awarding University scholarships and loans.

Applicants whose native language is not English may be required to demonstrate proficiency in English

Applicants of mature age who are not high school graduates may be considered for admission if their educational attainments are shown through testing to be equivalent to those of a high school graduate. The tests used include the USAFI General Educational Development Test, the American College Test and/or other tests recommended by the Admissions Committee. Applicants from nonaccredited high schools will be considered on an individual basis by the Committee.

Early Admission – Students of high academic promise may be admitted directly from the eleventh grade without a diploma. Basic requirements for early admission include:

- 1. Proper personal qualifications.
- Superior competence and preparation, evidenced by the high school record and college aptitude test scores (ACT, SAT or other tests prescribed by the University Admissions Committee).
- A letter from the high school principal assessing the applicant's emotional and social maturity and readiness for college work.

Additional information on procedure is available at the Admissions Office.

Advanced Standing – Students with superior preparation may be placed in advanced programs suited to their ability and academic background. Individuals with special competence may qualify for advanced placement or credit on the basis of high school grades, scores on college ability or achievement tests, the College Level Examination Program (CLEP) tests, proficiency tests and military courses. See Advanced Standing and Credit.

Admission of Transfer Students

A satisfactory citizenship record, a minimum 2.5 cumulative grade-point average on a 4.0 scale on all college work attempted, and eligibility to re-enter the institution last attended are required for transfer admission. Transfer applicants who were not eligible for admission to Auburn when they graduated from high school must present a minimum of 48 quarter hours or 32 semester hours of college credit. All transfer students who have attempted 48 quarter hours of college work must have earned a cumulative 2.5 grade-point average in at least 30 credit hours of standard academic courses as required in Auburn University's Core Curriculum, in addition to the overall 2.5 cumulative average. These 30 credit hours must include at least three quarter hours in each of the following areas:

English (college-level composition or literature)

History

Mathematics: college level algebra or higher (Note, however, that college algebra does not satisfy Aubum's Core Curriculum mathematics requirement.)

Natural Science with a laboratory

Transfer applicants to Architecture, Engineering, Interior Design, Interior Environments, Landscape Architecture, and Building Science must meet higher admission standards. The College of Engineering limits enrollment of students to its various curricula. In addition to the minimum criteria, students must be recommended by the Curriculum Admissions Committee. The criteria include an overall average of 2.8 and the completion of the first mathematics course listed in the chosen curriculum with a grade of C or better.

Entrance examinations may be required of applicants transferring from colleges with which the University has had little or no experience.

Transfer Credit – The amount of transfer credit and advanced standing allowed will be determined by the appropriate dean and the registrar. The dean will determine acceptance of D grades; credit for Core Curriculum English courses is allowed only on grades of C or better. The maximum credit allowed for work completed in a junior college will not exceed the number of hours required in the first two years of the student's curriculum at Auburn.

Students transferring from unaccredited institutions or programs may be granted provisional credit. When such credit is allowed, the final amount of credit will be determined upon completion by the student of one year of course work at Auburn University. If a C average is not achieved, the amount of credit will be reduced in proportion to the number of hours in which the student fails to earn a C average or better.

Transfer Within the System

Auburn University maintains a campus at Montgomery, Alabama. An undergraduate enrolled at either of Auburn's campuses who wishes to transfer to the other campus will be considered a transfer student as if from any other accredited college. Because there are differences between some curricula and courses at the two institutions, transfer credit and advanced standing will be determined by the academic unit and the registrar at the campus to which the student is moving.

Admission of Transient Students

A student in good standing in an accredited college may be admitted to the University as a transient student when faculty and facilities are available.

To be eligible for consideration, an applicant must submit an application, an acceptable medical report and a letter of good standing bearing the signature of the dean or registrar of the college in which the applicant is currently enrolled.

Permission to enroll is granted for one quarter only; a transient student who wishes to reenroll must submit a new application. Transient status does not constitute admission or matriculation as a degree candidate. The transient is, however, subject to the same fees and regulations as a regular student except for the continuation-in-residence requirements.

Admission of Unclassified Students

Admission to most undergraduate programs as an Unclassified Student may be granted on the basis of the bachelor's degree from an accredited college. Unclassified Students in Engineering must also meet the grade-point-average specified for Engineering transfer students. Unclassified students must submit the same admissions credentials as transfer applicants.

Admission of Special Students

Persons who do not meet general admission requirements for freshmen but who are judged to have potential for success may be approved for special admission. An individual interested in admission as a special student should contact the Admissions Office.

Admission of International Students

The University welcomes admission inquiries from international students. Because of limited facilities, only those students who are academically strong will be given serious consideration for admission. The international student should be proficient in English. In all cases, English proficiency is determined by satisfactory results on the Test of English as a Foreign Language (TOEFL), offered by the Educational Testing Service, Box 899, Princeton, N.J., 08540, U.S.A. The student must submit satisfactory results on the Scholastic Aptitude Test of the College Entrance Examination Board, also offered by the Educational Testing Service.

International students first should send all of their academic credentials to the Admissions Office for evaluation. If they appear qualified and show promise of success in their chosen fields of study, they will be asked to make formal application. The application must be accompanied by an application fee of \$25 (not refundable). If the applicants present satisfactory academic credentials, test results, and evidence that they have sufficient funds to meet their college expenses (there is no financial assistance for undergraduate international students), they will then be sent an acceptance and the form I-20, the authorization for a student visa. International students are required to subscribe to Plan II of the student insurance plan or provide evidence of equivalent coverage. Information about student insurance is available at Drake Student Health Center. For further information, prospective students should write to the Admissions Office, Auburn University, Alabama 36849-5145, U.S.A.

Admission of Auditors

When faculty and facilities are available, individuals who do not seek admission for course credit may audit a lecture course or the lecture portion of a course upon approval by the Admissions Office, the dean, and the head of the department. A formal application must be filed, but the \$25 application fee and the medical examination report are not required.

Admission to Graduate Standing

Admission to graduate standing is granted only by the University Graduate School. A \$25 application fee is required. A bachelor's degree or equivalent from an accredited college or university and submission of satisfactory scores on the General Test of the Graduate Record Examinations (GRE) are required for Graduate School admission in all departments except Business. Applicants in Business must submit satisfactory scores on the Graduate Management Admission Test (GMAT). Certain departments require applicants for master's degree programs to take the GRE Subject Test. Applicants for admission to doctoral programs in some departments must submit GRE Subject Test Scores also.

The undergraduate preparation of each applicant must also satisfy the requirements of a screening committee of the school or department in which the student plans to major. A student in good standing in a recognized graduate school who wishes to enroll in summer session, off-campus workshop, or short session, and who plans to return to his former college, may be admitted as a graduate transient. For further information, see the section on the Graduate School and the Graduate School Bulletin.

Readmission

Students who have previously attended Auburn and who wish to re-enter must secure a registration permit from the Registrar's Office. Former students who have attended another college for at least one quarter or semester must be eligible to re-enter that institution if they desire to return to Auburn. Students who attended another institution for more than one quarter must have earned an overall C average or better since last attending Auburn to be eligible to re-enter AU. Two transcripts from the institution attended must be supplied to the Registrar.

Pre-College Orientation

To help entering freshmen adjust to the first quarter at the University, including scheduling of courses, Auburn provides pre-college orientation.

Freshmen entering Fall Quarter attend sessions on campus during the summer prior to entrance. In these sessions, students meet faculty members, administrators, and student leaders, and plan with their advisors a schedule of their first quarter of college work.

New students may meet with advisors during the regular registration period for the quarter in which they plan to enroll. Transfers will plan their schedules after their transcripts have been evaluated. A convocation for all new students is held prior to the beginning of classes.

Accommodation Policy for Students with Disabilities

It is the policy of Auburn University to provide accessibility to its programs and activities and reasonable accommodation for persons defined as having disabilities under Section 504 of the Rehabilitation Act of 1973, as amended, and the Americans with Disabilities Act of 1990.

Students with disabilities desiring additional information should contact the Program for Students with Disabilities, 1234 Haley Center, (334) 844-2096 (Voice/TT).

Alabama and Non-Alabama Student Policy

For the purpose of assessing fees, applicants shall be classified as Alabama or non-Alabama students. Non-Alabama students are required to pay a non-resident tuition fee.

An Alabama student is a person who shall be a citizen of the United States or a resident alien and who shall have resided and had habitation, home, and permanent abode in the State of Alabama for at least 12 months immediately preceding current registration. In applying this regulation, "applicant" shall mean a person applying for admission to the institution it applicant is married or 19 years of age, or, otherwise, it shall mean parents, parent or legal guardian of his or her person. If the parents are divorced, residence will be determined by the residency of the parent to whom the court has granted custody.

A person who establishes a guardianship for purpose of avoiding non-Alabama fees will be subject to non-resident tuition.

In the determining of an Alabama student for purposes of assessing fees, the burden of proof is on the applicant.

Additional Persons Eligible for Resident Tuition

- A. Military personnel on active duty stationed in Alabama and their dependents (as defined by Internal Revenue Codes) as well as military personnel whose "Home of Record" is Alabama and their dependents.
- B. Non-resident graduate students who have been awarded full academic, athletic or other similar performance tuition scholarships by Auburn University and non-resident graduate students who hold assistantships of 1/4 or more appointments.
- C. Full-time employees of a State of Alabama agency or institution and their spouses and/or dependent children.
- D. Persons who are dependents of a non-resident employed in Alabama full-time for at least one year prior to registration and who have filed an Alabama Income Tax Return for the tax year prior to the year in which the student is admitted and did not claim a credit on the Alabama return for income taxes paid to another state.
- E. Non-resident students enrolled in programs included in the Southern Regional Education Board Academic Common Market provided the student does not change to another program not included. In such cases of change the student will be classified as a non-resident for tuition purposes.
- F. Persons whose spouses by legal marriage are bona fide Alabama residents.
- G. Dependents and spouses of persons who establish domicile within the State and who are employed full-time in a permanent position in the State.
- H. Non-resident persons enrolled in programs of Auburn University not funded by tax revenues of the State of Alabama may be exempted from non-resident tuition.

Initial Determination of Eligibility

In order to be initially classified as eligible for resident tuition, students must demonstrate that they or their parent, guardian or spouse qualify for one of the eligibility categories prior to the first day of class. A signed statement is required that qualification for the eligibility category claimed has been met prior to registration.

Change in Eligibility for Resident Tuition

Students determined to be eligible for resident tuition will maintain that eligibility upon reenrollment within one full academic year of their most previous enrollment unless there is evidence that the student subsequently has abandoned resident status, e.g., registering to vote in another state. Students failing to re-enroll within one full academic year must establish eligibility upon enrollment.

Students initially classified as ineligible for resident tuition will retain that classification for tuition purposes until they provide documentation that they have qualified for resident tuition. The burden of proof of change in eligibility rests on those requesting change. Evidence relevant to an initial determination of eligibility is also relevant to establishing a change in eligibility.

Non-resident students who carry an academic load normal (10 or more hours) for students at Auburn University will be presumed to be in the State primarily for the purpose of gaining an education. Clear and convincing proof may overcome this presumption, but again, the burden of proof rests on those requesting change in eligibility. Any change in resident tuition eligibility occurring during an academic term will not become effective until the registration for the succeeding term.

The following types of evidence may contain data to establish twelve (12) month residency in the State. At least five of the nine criteria must be met. In all cases the person must be at least 19 years of age or married; otherwise, the person's residency will be based on that of the parent or guardian.

- A. Ownership of residential property and other real property in the State or continuous occupation or renting of an apartment, house or other residential space in the State on an extended term of not less than twelve months.
- B. Full-time permanent employment in the State.
- C. Possession of State Licenses required to do business or practice a profession in Alabama.
- D. Marriage to a bona fide Alabama resident.
- E. Location of voting registration.
- F. Filing Alabama resident tax returns.
- G. Current Alabama driver's license
- H. Alabama vehicle title registration and payment of property taxes.
- Evidence of local banking activity for 12 consecutive months prior to making application for residency change.

The Registrar at the respective Auburn University campus shall have the responsibility for determining whether a student shall be classified as an Alabama or non-Alabama student. The decision of the Registrar shall be subject to review by the President (at Auburn) or the Chancellor (at AUM) or the designated representative of each upon written request of the applicant.

Academic Common Market

The Academic Common Market is an agreement among 14 Southern Regional Education Board states (Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, Oklahoma, South Carolina, Tennessee, Texas, Virginia and West Virginia). The agreement is that if one of these states does not offer a particular degree program in its state-supported universities, a resident of that state may enroll in that degree program at a university in one of the other states without having to pay out-of-state tuition. Each state specifies which programs in out-of-state universities it will allow its residents to attend as common market students. Common market students at Auburn must be certified residents of one of the other states, and they must be enrolled in degree programs agreed to by their home states. Auburn students who enter as common market students and later change to a degree program not certified as eligible by their home states lose the waiver of out-of state tuition when they discontinue taking courses in the certified program. Since out-of-state residence is a requirement for being a common market student, students may not use the time spent as common market student to qualify them as residents of Alabama. Further information about the Academic Common Market is available from the Provost's Office, 209 Samford Hall (334) 844-5779.

Payment of University Obligations

The Auburn University Billing/Receivable System will bill students by mail for the majority of their charges due AU. Among the charges included within this system are those for tuition/ fees, Tiger Cub. housing, parking and student health center. Other charges will be included in the system as deemed appropriate. Charges not included within this system will be billed by the department which generated the charge. Any questions concerning a charge should be directed to the department responsible for that particular charge.

AU Billing/Receivable statements will be mailed at approximate monthly intervals corresponding to the University's quarterly schedule. Statements will be mailed about six weeks prior to the start of the quarter, again two weeks prior to the start of the quarter, and then four weeks after the quarter has started. Tuition and fees resulting from University registration will be included in the first statement with payment due approximately three weeks later. Additional charges will be billed as incurred. All charges appearing on a billing statement must be cleared by the due date for that statement or late payment charges will be assessed. Late payment charges may be waived for tuition resulting from University registration and housing charges when financial aid is processed through the University and evidence of such aid is recorded on the statement.

AU Billing/Receivable statements will be mailed to the student's mailing address (as maintained by the Registrar's Office) when school is not in session or during quarters in which the student is not enrolled. When the student is enrolled in a current quarter, statements will be sent to the student's local address. Students may request that all billing correspondence be sent to a specified address by contacting the Bursar's Office.

Students are expected to meet all financial obligations when they fall due. The University reserves the right to deny admission, dis-enroll, prevent participation in graduation and withhold transcripts, cap, gown and diploma of any student who fails to meet promptly their financial obligations to the University. It is each student's responsibility to be informed of all payment due dates, deadlines, and other requirements by referring to official sources of University information such as this catalog, official calendar of events, announcements printed in the Plainsman, or that disseminated by other means from time to time. Students owing charges for prior quarters will not be allowed to register for future quarters until all charges are paid. Enrolled students who do not register during the University registration period will be liable for late registration charges.

University registration or other requests for class assignment create a liability for the payment of tuition and fees resulting from assigned classes. Such liability can only be excused when students withdraw or resign in accordance with University procedures.

Checks: Checks given in payment of any University obligation are accepted subject to final collection. If the bank on which the check is drawn does not honor the demand for payment and

returns the check unpaid, the student will pay a returned check fee of \$20 and any applicable late payment charges. If payment is not cleared promptly, the student's registration may be cancelled. The University has the right but not the obligation to redeposit any insufficient check without notice to the student or maker.

Collection costs or charges along with all attorney fees necessary for the collection of any debt to the University will be charged to and paid by the debtor.

Veterans: All veterans (Chapters 30 and 32), reservists and guard members (Chapter 106) and veterans' dependents (Chapter 35) are responsible for paying fees and charges on the same basis as other students. Veterans under the Vocational Rehabilitation program (Chapter 31) and students receiving the Alabama GI Bill should make arrangements for their tuition, fees and books to be paid prior to their first payment due date.

Foreign Students Under Contract: A special administration management/program fee will be negotiated for foreign students who come to the University under a contractual arrangement that requires special administrative and programming arrangements beyond those of the regular academic program of the University.

Fees and Charges

Auburn University's fees have remained somewhat lower than those charged by similar institutions in the Southeast and in other sections of the country. As institutional costs have risen, small increases in fees have been authorized from time to time by the Board of Trustees. Every effort is made, however, to hold fees and charges at a minimum.

The following fees and charges are in effect at this time. However, since the catalog must be published well in advance of the next school year, it is not always possible to anticipate changes. Thus the fee schedule may have to be revised. Every effort will be made to publicize changes as far in advance as possible.

Basic Quarterly Charges

Students should be prepared to complete registration by payment of fees and charges, upon notice, prior to the beginning of the quarter.

Gra	aduate & Undergraduate	Ala. Students	Non-Ala. Students*
1	University Fee - 10 to 15		
	credit hours (all except Vet. Med.) (a.)	700.00	2,100.00
2.	University Fee - Vel. Med Professional	Program	
	10 to 15 credit hours (a.)	890.00	2,670.00**
3.	Additional Fee for each credit hour		
	over 15 on 1 and 2 above	23.00	69.00
4.	Part-time Registration Fee (Less than		
	10 credit hours) (b.)	120.00	
5.	Part-time Credit Hour Fee (Less than		
	10 credit hours) (except Vet. Med.) (b.)	58.00	174.00
6.	Part-time Credit Hour Fee - Vet. Med I	Professional Program	
	(Less than 10 credit hours) (b.)		231.00
7.	Auditing Fee (c.)		174.00
8.	Clearing for Graduation (d.)	120.00	
9.	Doctor of Pharmacy Fee (e.)		157.00
	Music Fee (per applied course) (f.)	71.00	71.00
11.	Computer Literacy (U 135)		20.00
	Flower Arranging (HF 225)	66.00	66.00
13.	Field Laboratory Courses -		
	Off Campus Program (g.)		
	a. Service Fee		
	b. Additional Fee Per Credit Hour	58.00	
14.	Correspondence Study Course Fee (h.)		
	a. Service Fee		15.00
	b. Additional Fee Per Credit Hour	37.00	

[&]quot; Non-Alabama fees shall not apply to Graduate Teaching Assistants, Graduate Research Assistants and Graduate Assistants, on a one-fourth time or greater appointment in the University. These shall pay fees as Alabama students when the appointment is effective as of the lifth class day of the quarter.

" Only \$890.00 for SREB students.

- (a.) The University Fee is used to meet part of the cost of instruction, physical training and development, laboratory materials and supplies for student's use, maintenance, operation, and expansion of the physical plant, Library, Student Health Services and Student Activities. The Student Activities portion of the fee supports such activities on campus as intercollegiate athletics, exhibits, GLOMERATA, intramural sports, PLAINSMAN, religious life, social affairs, student government, student union activities and operations, TIGER CUB, and WEGL Radio Station. This fee includes 25 cents held in reserve to cover unnecessary damage to University property by students.
- (b.) Students registering for fewer than 10 credit hours will pay the Part-Time Registration Fee plus the Credit Hour Fee for each credit hour. (Students who register for 10 or more hours will pay the University Fee.) The Part-Time Registration Fee is remitted to full-time faculty and staff. All students except faculty and staff are eligible to participate in Student Health Services and Student Activities.
- (c.) Any student who pays less than full fees must pay this fee for auditing a course. (Not charged to faculty and staff.)
- (d.) A student who is a candidate for a degree in a quarter in which no credit work is taken is required to register in such quarter as a prerequisite to graduation. (For members of the faculty and staff the charge shall be reduced to \$5.00.) Graduation fee is to be paid in addition to this charge.
- (e.) Extra fee per quarter Clinical Pharmacy.
- (f.) This additional music fee to be paid for each Performance Course of individual instruction. Instruction is available in one hour or two half-hour lessons per week.
- (g.) Students registering for Field Laboratory Courses or off-campus courses will pay the Service Fee plus the additional fee per credit hour. Students participating in the Study Abroad/ Exchange Program will pay the off-campus courses Service Fee, and any course work resulting in AU credit or grades will be assessed in accordance with the University fee structure.
- (h.) Students registering for Correspondence Study Courses will pay the Service Fee plus the additional fee per credit hour. Special Lab Fees may be associated with certain courses.

Other Fees & Charges

Late Payment Charges

All students, regardless of classification, must clear tuitions, fees and other University obligations by the deadlines set by the University, or be liable for late payment charges. Late payment charges are assessed following each payment due date based on the following schedule:

Amount Past Due	Late Payment Fe	
Less than \$10	\$1	
\$10 or more up to \$100	\$10	
\$100 or more	\$25	

Late Registration Fee

50.00

00

Applicable for currently enrolled students who fail to register during the University registration period for the term for which they are registering late.

Reinstatement Re-enrollment Fee (after disenrollment)	60.00
Achievement Certificate Fee	10.00

Application Fee

The application fee must accompany all applications for admission. Not refundable nor applicable to registration fees. (see section on Admissions.) An application fee must accompany the application for housing and is not refundable or applicable to housing fees. (see section on housing.)

section on nousing.)	
Chemistry Lab Fee (not refundable after 10th class day)	20.00
Duplicate Diploma Fee	20.00
Doctoral Dissertation Microfilming Fee	55.00
Equivalency Examination Fee (GED) (each)	20.00
Thesis and Dissertation Binding Fee (per copy)	7.00
Three to five copies usually required.	
Graduation Fee (each degree)	20.00

Payment of graduation fee is due by the due date of bill in which it is charged.

Internships

Agriculture — AEC 399, ADS 495, AY 390, ENT 491, FAA 315, HF 330, PH 402 Business — AC 400, EC 400, FI 400, MN 400, MT 400

Communication - COM 639, RTF 439

Communication Disorders - CD 658, 668

Criminal Justice - LE 464

Foreign Language International Trade - FL 499

Journalism - JM 425

Political Science - PO 450

Zoology - ZY 490

Fees will be one-half the full University Fee and one-half of the non-Alabama student fee, if applicable. Total course load not to exceed 9 credit hours.

Rent for Student Housing, (see section on Housing and Residence Life)

Meal Plans (See section on Food Services under Student Services and Programs.)

Registration fees billed home,

Transcript Fee

To parents, Trust Funds, companies, or other sponsors	5.00
Charge for returned check	20.00
Notice: ALL CHECKS ARE ACCEPTED SUBJECT TO COLLECTION	
Special Service Fees	
Cooperative Education Program	30.00
Cooperative Education ID Fee	
(Applicable to co-op students who order athletic tickets at the student rate)	21.75
Internship Fee-Veterinary Medicine	15.00

Registration Fee Cancellations or Refunds

Students officially resigning prior to the start of a quarter will not be held liable for fees (other than non-refundable fees). Students resigning during the first 10 days of class are excused their regular fees but are liable for the \$100 resignation fee.

The liability for fees will not be excused for resignations effective after the 10th class day except in cases of resignation caused by personal illness (physician's statement required) or call into military service (copy of activation orders required, excluding temporary training assignments). A pro-rata reduction will be made in cases of personal illness and a full reduction for military service activation. Students having made prior payment will be refunded the amount paid less their liability after the resignation. Students suspended for disciplinary reasons are not eligible for refunds or reductions in liability. Resigning students receiving refunds will first have their refunds applied to any outstanding obligations and to any scholarship, grant or loan which they had received for the quarter.

Students reducing course loads on or prior to the 10th day of classes may be eligible for a partial refund or reduction in liability of tuition and fees. To be eligible, the adjustment must be completed on or before the 10th day of classes. In such cases, fees will be reassessed based on the adjusted schedule.

A pro-rata refund policy will be in effect for those students receiving federal financial aid and attending Auburn University for the first time, and will be provided up to the 60 percent point of their first quarter. An administrative fee of the lesser of \$100 or 5 percent of charges will be deducted from the refund.

An additional refund policy is applicable to all students receiving federal financial aid. A refund calculated using the University's refund policy will be compared to a refund calculated using federal regulations. The student will receive the larger amount.

Students who believe that extenuating circumstances warrant an exception to the refund policy must submit an appeal in writing to the Director, Office of Bursar, Quad Center. Acceptance or rejection of the appeal will be mailed within 10 business days.

Academic Regulations

Registration and Scheduling

Every student who makes use of the instructional staff and facilities of the University must register and pay fees. This rule also applies to students who are clearing incomplete grades, clearing for graduation, or working on graduate theses. The University Calendar on pages 4 and 5 lists the dates for registration and late registration/schedule adjustment. The student's dean authorizes and approves the courses for which the student registers, as well as any changes or adjustments in his schedule.

Students are urged to register during their assigned registration period (see Auburn University Schedule of Courses). Students should register for courses during the quarter preceding

3.00

the term for which they plan to attend. A currently enrolled student who fails to register during the assigned registration period will be required to register during the late registration/schedule adjustment period and will be assessed a late registration fee.

When registering, the student is responsible for observing the prerequisites or corequisites of courses. Any waiver of these requirements must be approved by the department head, or in some cases, the dean. Waiver of the junior standing prerequisite for courses that may be taken for graduate credit must have the Graduate School dean's approval.

A student's class load may be reduced by the dean. Students may register for classes through the 10th class day subject to approval of college, school or department offering the course. No student will be allowed to register after the 10th day of classes without the approval of the Provost/Vice President for Academic Affairs.

During any given quarter, students enrolled at Auburn University are expected to take courses only at Auburn. Only under exceptional circumstances, and with prior permission from the dean, may a student receive transfer credit toward the Auburn degree while concurrently enrolled at another college or university.

Registration and Readmission Permits

All students must have an electronic registration permit and a personal access code (PAC number) prior to participating in registration, late registration or schedule adjustment. Consult the Auburn University Schedule of Courses for instructions.

A student seeking readmission who has attended another college since being enrolled at Aubum University must (1) be eligible to re-enter the last institution attended and (2) have a C average overall in course work attempted at other colleges attended two or more terms. Two official transcripts from each institution attended must be furnished to the Registrar's Office.

Change of Major or Curriculum

Students must have their dean's approval to change to another major within the same College or School. To change Colleges or Schools within the University, students must complete a Change of College/School Form.

Course Load

The maximum load for students in undergraduate curricula is 19 quarter hours. A normal load is 15-19 hours per quarter. An undergraduate must enroll for 12 or more hours to be considered full-time for athletic, financial aid, loan and insurance purposes. With the dean's approval, students may schedule less than a normal load.

The maximum load may be exceeded under the following circumstances:

- 1. The academic dean may approve up to 20 hours as a convenient load.
- 2. On approval of the dean, students may schedule overloads not to exceed 23 hours if, during their last residence quarter at Auburn University in which they carried 15 or more hours, they passed all work attempted and earned a grade point average of 2.5 or higher. Students who have scheduled fewer than 15 hours during an intervening quarter (or quarters) will retain the overload privilege if all work carried was passed with a minimum grade-point average of 2.5 in each intervening quarter. In special cases the dean may make exceptions to the 2.5 requirement, by electronic notice to the Registrar.
- On approval of the dean, graduating seniors who are ineligible to carry an overload may schedule a maximum of 23 hours if the overload will allow them to graduate in that quarter.

Students who register for work in excess of the approved load may be required by the dean to drop the overload during the Schedule Adjustment period.

Curriculum Model Change

When the University changes a curriculum model, students in the altered curriculum may be required to complete the subjects and hours placed above the level to which they had progressed. They will not, however, be required to complete additional subjects placed in the curriculum below the level they had achieved. Courses shifted from one class level to another are exempt from this latter provision. Students' deans will determine the revised subject requirements, and the Registrar will determine the revised total hour and grade-point requirements. In no case, however, will the changed curriculum compel students to accumulate additional hours and grade points to graduate.

Classification

The undergraduate's classification will be determined by the number of credit hours earned at Auburn and elsewhere.

Freshman 47 or fewer quarter hours. Sophomore 48-95 quarter hours. Junior 96-143 quarter hours. Senior 144 or more quarter hours.

The numbering sequence for identifying the classification of students is as follows; 1, Freshman; 2, Sophomore; 3, Junior; 4, Senior; 5, fifth year for Pharmacy, Architecture, Landscape Architecture and Veterinary Medicine; 10, Unclassified (non-degree students); 12, Special and Transient students and auditors only; 6, 7, 8, 9, 11, 13 and 14 are Graduate student classifications.

A student with a baccalaureate degree who undertakes a program for a second bachelor's degree will be classified as an undergraduate.

Auditing

Auditing of courses is restricted and rarely permitted in laboratory courses. A student's audit privilege is granted only on the approval of the dean and the head of the department of the course involved.

Auditors not previously admitted to the University must be approved for registration by the Admissions Office. They must register and pay appropriate fees. Although listed on class rolls, auditors are not required to take part in classroom discussion, tests, examinations, or reports. They will receive no grade or credit; however, a student who does not attend or attend regularly the audited course will have "non-attendance" indicated by the course on their records.

Students may not change from audit to credit after classes begin, but may change from credit to audit within the first three weeks of classes. No refund of fees will be made except for changes made during the first two weeks of classes in accordance with University policy.

Class Attendance and Procedures

- Students are expected to attend all their scheduled University classes. College work
 proceeds at such a pace that regular class attendance is necessary to receive proper
 instruction. Specific policies regarding class attendance are the prerogative of individual
 faculty members. Faculty shall inform each class in writing at the beginning of the course
 regarding the effect of absences on the determination of grades.
- The student shall be expected to carry out all assigned work and to take examinations at the class period designated by the instructor. Failure to carry out these assignments or to take examinations at the designated times may result in an appropriate reduction in grade, except as provided in paragraph 4 below.
- Instructors shall determine the policy regarding grading which they feel is best for the course.
 This policy shall be presented to the class, in writing, at the beginning of the quarter and will govern the actions of the instructor in the course.
- Arrangements to make up missed work due to excused absences shall be initiated by the student. Instructors will be expected to excuse absences for:
 - a. Illness of the student or serious illness of a member of the student's immediate family. The
 instructor shall have the right to request appropriate verification.
 - b. The death of a member of the student's immediate family. The instructor shall have the right to request appropriate verification.
 - c. Trips for members of the student organizations sponsored by an academic unit, trips for University classes, and trips for participation in intercollegiate athletic events. When feasible, the student must notify the instructor prior to the occurrence of such absences, but in no case shall such notification occur more than one week after the absence. Instructors may request formal notification from appropriate University personnel to document the student's participation in such trips.
 - d. Religious holidays. Students are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays.
 - e. Subpoena for court appearance.
 - Any other reason the instructor deems appropriate.
- The regularly accepted time for class to begin shall be 10 minutes after the hour. If the instructor does not appear within 20 minutes after the hour, it may be assumed the class is cancelled. All classes shall be dismissed promptly on the hour.
- It is University Policy that all classes will meet as scheduled on the last day before and the first day after holiday periods designated by the University.
- Unresolved problems regarding class attendance and or procedures should be referred to the University Student Grievance Committee.

Examinations

Examinations are classified as (1) final examinations at the end of each quarter; (2) special examinations; and (3) other course examinations as determined by the instructor.

Announced tests in undergraduate courses will be administered at a regularly scheduled meeting of the course. Exceptions to this regulation may arise in specialized courses requiring performance or oral tests, and in multiple-sectioned laboratory classes requiring practical laboratory tests. Faculty having sound reasons for scheduling tests at times other than regularly scheduled meeting times are to obtain approval from the department head prior to the beginning of the quarter, and are to present a written schedule of these changes to the class during the first few days of the quarter. Rescheduled tests are not to interfere with other scheduled academic endeavors of the students involved, and an appropriate reduction in regularly scheduled class time is to be given to compensate for the rescheduled test period.

Final Examinations. A final examination is a desirable means of evaluation in most undergraduate courses. In unusual circumstances, performance tests, term papers, research projects or other forms of evaluation appropriate to the objectives of the course may be substituted for a final examination with the approval of the department head, who will report such action to the dean and Provost. Faculty not giving a final examination are to present to the class at the beginning of the quarter a written description of the forms of evaluation to be used and the means of determining final grades. The professor teaching a 600-level course shall determine whether a formal final examination is appropriate.

Final examinations are to be given as scheduled in the quarterly examination schedule. Exceptions to this policy require prior approval by the Provost, Rescheduled examinations must not interfere with scheduled academic activities of the students involved.

Grades

Final passing grades are A, superior; B, good; C, acceptable; D, passing; and S, satisfactory. Final failing grades are F, failure; FA, failure for excessive absences; XF, absent from final examination and failing at the time; U, unsatisfactory; and WF, officially dropped with permission of the student's dean but failing at time of withdrawal.

An NG, no grade, thesis and dissertation research credit, is assigned to courses 699 Research for Thesis and 799 Research for Dissertation.

An X is assigned if the student missed the final examination and is passing, even if the student has other incomplete work. The student must clear X grades during the first four days of the next quarter in residence or they will be recorded as Fs

An IN is assigned if the student has cleared the final examination but has not completed other required work. Undergraduates must clear IN grades during the next quarter in residence or they will be recorded as Fs. Graduate students must clear IN grades during the next two quarters in residence to avoid having them recorded as Fs. IN grades are changed by the Registrar upon written notice from the instructor. A final grade may be changed only by the written request of the instructor, with approval of the department head and dean, submitted to the Registrar.

A grade of F and additional penalties may be assigned for academic dishonesty. See the Student Academic Honesty Code section in the Tiger Cub for further information.

Grade Assignment For Class Withdrawals. No grade penalty shall be assigned for dropping a course on or before mid-quarter. A student who withdraws from a course prior to the 10th class day will have no grade assignment; however, after the first 10 days a W (Withdrawn Passing) grade will be recorded for the course.

A course may be dropped with a **W** after mid-quarter only under unusual conditions. When approval for dropping the course under such circumstances is granted by the student's dean, a **W** may be assigned only when the instructor indicates that the student is clearly passing the course. Otherwise, a grade of **WF** (Withdrawn Failing) is assigned.

Grade Average and Quality Points. A 4.0 grade scale is used. An A equals 4.0; B, 3.0; C, 2.0; D, 1.0; and F equals 0.0. Only course work attempted at Auburn University is used in determining the grade report average and continuation-in-residence requirements. S and U grades do not enter into grade-point computations.

S-U Grading. Grades of S (Satisfactory) and U (Unsatisfactory) may be assigned only to courses approved to be graded S-U, and courses elected under the S-U option.

A junior or senior with a minimum overall grade average of 2.5 on at least 30 hours of credit earned at Auburn may elect any course to be graded on the S-U option, except for courses required in the freshman and sophomore years or for courses constituting the major as defined by the student's curriculum. A total of 20 credits may be earned at the rate of one course per quarter. Students will receive credit toward a degree for these courses, provided credit is normally accepted in their curricula for these courses.

An unclassified student may schedule one or more courses on the S-U option with the approval of the dean. Courses completed on the S-U choice by unclassified students may not be applied later to degree requirements should the student become a degree candidate.

A graduate student may enroll in undergraduate courses, except for 500-level courses taken for graduate credit, under the S-U option on the major professor's recommendation.

Students are not permitted to change from S-U grading to conventional grading or vice versa after the schedule adjustment period.

Repeat Of Courses. No student may repeat a course for credit in which the student has previously earned a grade of A, B, or C without written permission by the student's academic dean. Courses specifically designated as repeatable in the Auburn University Bulletin are exempt from this regulation.

Grade Reports. In compliance with the Family Educational Rights & Privacy Act, one copy of each student's grade report is mailed at the end of each quarter to the student at the address furnished by the student.

Dean's List

The name of every eligible student who meets certain scholastic requirements for a given quarter is placed on a list prepared for the dean of the student's College or School. This honor is also noted in the student's permanent record.

To meet Auburn University's requirements for inclusion on the dean's list, the student must be enrolled for 15 or more credit hours exclusive of any S-U option courses, pass all courses attempted for the quarter, and earn a grade-point average of at least 3.4 (on the 4.0 system). Furthermore, the dean of each College or School has established specific criteria governing inclusion on the list. The special requirements, applied in addition to the University regulations, are listed as follows:

College of Agriculture: 3.70 average.

School of Architecture: 3.70 average; only if an S-U graded course is required in the student's curriculum may it be included in the 15-hour minimum total.

College of Business: 3.80 average. College of Education: 3.80 average.

College of Engineering: 3.70 average; only if an S-U graded course is required in the student's curriculum may it be included in the 15-hour minimum total.

School of Forestry: 3.70 average.

School of Human Sciences: 3.80 average.

College of Liberal Arts: 3.60 average.

School of Nursing: 3.75 average.

School of Pharmacy: 3.75; only if an S-U graded course is required in the student's curriculum may it be included in the 15-hour minimum total.

College of Sciences and Mathematics: 3.75 average.

College of Veterinary Medicine: grades in the upper five percent of the enrollment of each class. Interdepartmental-Environmental Science: 3.65 average.

Resignation

Students who wish to resign from all courses for a quarter should contact their deans. They may withdraw without penalty of failure if they resign no later than mid-quarter, a date specified in the University calendar.

After this date, the dean will obtain from the student's instructors his or her scholastic standing at the time of resignation, and report it to the Registrar. If the student is failing in over half of the work, the number of hours reported as failing will be counted as credit hours attempted and will be included in academic eligibility calculations. Those hours reported as passing will be dropped and will not be counted in the grade-point computation. Furthermore, if a student has been placed on academic suspension at the end of the last quarter in residence prior to the resignation, the grades will be reviewed by the dean to determine whether the student will be placed on further academic suspension.

When a student through illness or physical disability is forced to resign after mid-quarter, and when this condition has been the main factor in causing scholastic deficiencies, discretionary power in waiving the scholastic penalty will rest with the student's dean. A student who is resigned for disciplinary reasons will retain the academic status achieved immediately prior to the disciplinary action.

Undergraduate Continuation in Residence Requirements

Auburn University may place an undergraduate student on probation/academic warning or suspension at any time if the student flagrantly neglects academic work or fails to make satisfactory progress toward graduation.

An academically suspended student who has incomplete or other deferred grades which could, when cleared, remove the suspension will be permitted to register conditionally for the next quarter. The suspension must be removed within two weeks of the beginning of the quarter; otherwise the student will be resigned by the Registrar's Office.

No credit earned at another institution by a student on academic suspension from Auburn will be used in clearing a suspension or in meeting requirements for an Auburn University degree.

A student who resigns after mid-quarter may be subject to academic suspension, (See Resignation for further information.)

Beginning Fall Quarter 1993, the University began the new undergraduate continuation in residence policy outlined below:

- A. "Academic Warning" occurs at the end of any quarter for which the student's cumulative GPA on Auburn course work is below 2.0.
- B. Any student who is on Academic Warning status will be placed on Academic Suspension if: (1) the student's quarterly GPA is below 2.2 and (2) the student fails to earn at least three grade points above a C average in that quarter and (3) the cumulative GPA on Auburn course work is below that required for the designated number of hours attempted as follows:

All Hours Attempted at Auburn Plus All College-Level Hours	Required Minimum
Approved from other Colleges and Universities	Auburn Cumulative GPA
1-50	1.50
51-100	1.70
101-150	1.80
151-200	1,90
201 or more	2.00

- C. Beginning freshmen those who entered without transfer credit are not subject to suspension until the end of their second quarter.
- D. A student who incurs a First Academic Suspension may not enroll in the University for a minimum of two quarters. Summer quarter is included as any other quarter. A student returning from academic suspension will be on Academic Warning status. A student who incurs a Second Academic Suspension may not enroll in the University for a minimum of four quarters. A student who incurs a Third Academic Suspension will be expelled from the University.
- E. The academic dean will review all grades for the quarter in which a student who is on Academic Warning resigns after mid-quarter. If the student's GPA in that quarter's course work results in the student's cumulative GPA being below the minimum cumulative GPA required, the student will incur Academic Suspension.

Implementation Schedule

The undergraduate continuation in residence policy will be implemented according to the following schedule:

Fall Quarter, 1994: At the end of Fall Quarter 1994, students who have attempted 100 or fewer hours from Auburn (and including all hours approved from other colleges and universities) will be subject to these revised standards.

Fall Quarter, 1995: At the end of Fall Quarter 1995, students who have attempted 150 or fewer hours from Auburn (and including all hours approved from other colleges and universities) will be subject to these revised standards.

Fall Quarter, 1996: All students will be subject to these revised standards.

Appeals: Students who incur Academic Suspension under these rules may appeal the decision to the Admissions Committee if they believe extraordinary circumstances merit an exception to the rules. Any student on indefinite suspension must appeal to the Admissions Committee for readmission to the University.

These requirements are University requirements. Individual colleges and schools may have higher requirements.

Undergraduate students who are not now subject to these revised continuation in residence requirements will follow the requirements outlined below until such time as they become subject to the revised requirements (see Implementation Schedule).

Academic eligibility requirements for continuation in residence are calculated on Auburn University course work. Academic probation is a scholastic warning, indicating that the student is in danger of being suspended. A student on probation can continue enrollment without interruption. Academic suspension is a status that bars a student from continued enrollment at the University for a period of time.

A student will be placed on academic probation whenever the total number of hours attempted at Auburn, multiplied by two, exceeds grade points earned by more than 25 except that no entering freshman will be placed on probation on the basis of the first quarter's work at the University.

A student may remove probation status by reducing the grade point deficiency to 25 or fewer grade points.

An individual on academic probation will be placed on suspension when the number of hours attempted at the University, multiplied by two, exceeds grade points earned by more than 45. However, a student will not be suspended at the end of a quarter in which a 2.0 (C) average was earned, but will be continued on probation.

A student's first academic suspension will be for a period of two quarters, summer quarter being counted as any other quarter. He or she will be readmitted on academic probation following the expiration of the first suspension. A student who incurs a second academic suspension is placed on indefinite suspension for at least four quarters before an application for readmission will be considered.

College of Engineering. Students enrolled in a professional curriculum in the College of Engineering may be placed on Engineering academic suspension if their overall grade averages drop below a 2.0. Details are listed in the College of Engineering section of this Bulletin.

School of Pharmacy. A student enrolled in the School of Pharmacy who is placed on academic suspension and who wishes to re-enter the School must, in addition to complying with other University readmission requirements, be approved for readmission by the Pharmacy Admissions Committee and, when applicable, by the University Admissions Committee.

College of Veterinary Medicine. Any student who earns less than a 2.25 grade-point average for any quarter will be placed on academic probation. A student who fails to earn a 2.25 grade-point average for any two quarters in the same academic or calendar year may be dropped from the College of Veterinary Medicine for scholastic deficiency. In addition, a student who does not have an overall average of 2.25 for an academic year or who does not have a veterinary overall average of 2.25 for an academic year or who does not have a veterinary school cumulative average of 2.25 at the end of any academic year may be required to withdraw from the College of Veterinary Medicine.

A student who makes a grade of **F** in any course may be dropped from the College of Veterinary Medicine until such time as the course is offered again. Such student may be required to repeat certain other courses in the curriculum for the quarter in which a grade of **F** was earned.

Students who are dropped under the above provisions are eligible for admission to other curricula provided they meet the general scholastic requirements for continuance in the University. Scholastic penalties incurred during enrollment in the College of Veterinary Medicine will become part of the student's record.

Satisfactory Progress

Student Athletes: In addition to meeting the general academic requirements of the University, student athletes must meet all academic requirements, including those relating to satisfactory progress toward a degree, set forth in the legislation of the Southeastern Conference (SEC) and of the National Collegiate Athletic Association (NCAA).

Student Financial Aid Recipients: In addition to meeting the general academic requirements of the University, applicants for student financial aid funds must maintain Satisfactory Academic Progress in order to receive, or to continue to receive, assistance through federal, state, and institutional student aid programs. Detailed descriptions of these Satisfactory Academic Progress requirements for distinct classifications of Auburn students are available from the Office of Student Financial Aid.

Veterans: All VA eligibles (Chapters 30, 31, 32, 35 and 106), in addition to meeting the general academic requirements set forth by the University, must maintain satisfactory academ-

ic progress as approved by the State Approving Agency of the State of Alabama, Department of Education. Such standards are as follows: Any undergraduate VA eligible must have a 2.0 grade-point average after the student has earned 178 hours at Auburn University. This would be checked at each quarter's end and any VA eligible not meeting this requirement would be terminated from receiving VA benefits. Separate standards of progress apply to graduate students as outlined in the Auburn University Graduate Bulletin.

Advanced Standing and Credit

Prospective students are advised to write the Registrar's Office at Auburn University requesting a brochure on the Advanced Placement Program.

Entering students with superior preparation or with special competence in a specific area may qualify for advanced placement or credit. Placement or credit may be granted on the basis of Advanced Placement Examinations of the College Board, scores on college ability or achievement tests, departmental proficiency examinations, College Level Examination Program (CLEP) General and Subject examinations, and other evidences of experience and competence.

Students enrolled at Auburn may apply to an academic department for a Departmental Proficiency Test if they have demonstrated a reasonable basis of experience or study in the subject area. If they score a satisfactory grade on the examination, they will be eligible for placement in an advanced course and for credit in the subject. Students who have previously enrolled for the subject at Auburn are not eligible for this test in the same subject.

The amount of advanced placement credit granted in each subject area is determined by the recommendation of the academic teaching department with the approval of the student's academic dean and the Registrar.

Students transferring to Auburn, who have received advanced placement credits from another institution may be awarded these credits insofar as Auburn's requirements for awarding such credits are met. Advanced placement credits may not be substituted for residency requirement.

Correspondence Study

A student may earn a maximum of 25 percent of the total credits required for the baccalaureate degree by correspondence; however only 18 hours of the final year's work may be earned thus. An individual with fewer than three quarters in residence prior to the last academic year may earn only 15 hours by correspondence.

A student in residence may not enroll in a correspondence course if the course or a suitable substitute can be scheduled. The resident student may not exceed the maximum class hour load by adding a correspondence course. A student must have prior approval of his or her Auburn dean if the credits are to be applied toward an Auburn degree.

The grade earned for correspondence credit will be entered on the student's record.

Information on available courses may be obtained from Distance Learning and Outreach Technology, 204 Mell Hall, Auburn University, Alabama 36849, (334) 844-5103.

Military Science and Physical Education Credit

A student may be allowed a maximum of 18 credits in military science courses toward graduation, insofar as the credits are applicable to the student's curriculum. Of these 18 credits a maximum of six credits of basic ROTC at the rate of one credit per course is allowed toward graduation. A student may be allowed six credits on physical education activity courses toward graduation.

A student who has served in the Armed Forces may receive physical education credits as follows: for less than six months of service, no credit; for six months to less than a year, two hours of credit for Physical Education; for one year or more in the service, three hours of credit. Credits may also be allowed for military service courses. Application for credit for military experience should be submitted to the Registrar. The student's academic dean must approve credit into the student's curriculum.

Degree Requirements

To earn the bachelor's degree students must complete the subjects in their curriculum and must earn at least a C average on credits accepted for their degree program. Individuals with credit from other institutions must also have a C average on their Auburn course credits used in their curriculum toward graduation. Students in Business and Engineering curricula must

have a C average on all work attempted at Auburn. Students in Engineering must also have a C average in their major courses. Credits required for graduation range from 180 to 257 hours.

To earn the bachelor's degree from the School of Human Sciences, students must earn a minimum overall grade average of C in all subjects in their majors and in all course work attempted at Auburn University. This change became effective Summer Quarter, 1986, for all entering freshmen and transfers.

The student's dean clears subject requirements in the curriculum; the Registrar clears total hour, grade point and freshman English.

Forty-five hours must be earned in residence in order to receive a bachelor's degree. As a general rule the 45 hours must be taken in the final year and in the school or curriculum of graduation. The student's dean may waive the final year's residence and may also allow course credit to be earned at another institution during the final year. However the 45 hours in residence at Auburn is a firm requirement.

For students who enroll at Auburn University Fall Quarter, 1995 and thereafter, the following residence policy will be in effect:

A minimum of 25 percent of the total quarter hours required for a bachelor's degree must be earned in residence at Auburn University. As a general rule, 45 hours must be taken in the final year and in the school/college curriculum of graduation. The student's dean may waive the final year's residence and may also allow course credit to be earned at another institution during the final year. However, the 25 percent of course work in residence at Auburn University is a firm requirement.

To complete a second baccalaureate degree, an Auburn graduate must complete an additional 45 hours, satisfy the minimum overall grade average requirement and satisfy course requirements in the curriculum. At least 25 percent of all credit hours required for the second degree must be completed at Auburn. Graduates of another four-year institution who seek a second bachelor's degree at Auburn must complete, as a minimum, the hours required in the final year of their curriculum and satisfy the requirements listed immediately above.

Seniors must clear deferred grades by the tenth day of the graduation quarter for courses to be used toward degree requirements. Correspondence courses must be completed by mid-quarter prior to graduation.

A graduation fee is payable to the Cashier's Office, at the beginning of the quarter of graduation. If a student is in default on any payment due the University, the diploma and academic record will not be issued until the matter is cleared.

Degrees are conferred at Commencement exercises each quarter. If a student does not plan to attend the exercises, arrangements should be made with the dean or the Registrar to receive the degree in absentia.

Beginning Fall Quarter 1994, to earn a bachelor's degree a student must earn a minimum overall grade average of C in all course work in the major, minimum overall grade average of C in all Auburn course work applied to the degree, and a minimum overall grade average of C on all transfer credits applied to the degree.

Beginning Fall Quarter 1996, to earn a bachelor's degree a student must earn a 2.0 GPA on all courses attempted at Auburn, a 2.0 GPA on all transfer courses which apply to degree requirements and a 2.0 GPA on all work attempted in the student's major. These requirements are University requirements. Individual colleges and schools may have higher requirements.

Graduation Honors

Students with a minimum overall grade average of 3.4 are graduated *Cum Laude*; a 3.6 *Magna Cum Laude*; and a 3.8 *Summa Cum Laude*. This distinction of high academic achievement is placed on the student's diploma and on his or her permanent record.

The grade average for graduation honors must be achieved on Auburn University course work. At least 90 hours in residence at Auburn University are required for graduation honors. Grades of S or U and noncredit courses are not used in the calculations. Students earning a second baccalaureate degree must earn the minimum overall grade average required for honor distinction on the additional hours completed for the second degree. Those additional hours must total at least 90 credit hours.

Students meeting all of the requirements of the University Honors Program graduate as University Honors Scholars.

Student Academic Grievance Policy

The Student Academic Grievance policy, which appears in full in the student handbook, Tiger Cub, is designed to resolve academic grievances of students which result from actions of faculty or administrators.

Confidentiality of Student Records

The University recognizes that the maintenance of student information and educational records is necessary and vital to assist the student's education and development and to provide opportunities for University research and policy formulation. The University recognizes its obligation to exercise discretion in recording and disseminating information about students to insure that their rights of privacy are maintained.

The University will furnish annual notification to students of their right to inspect and review their educational records; the right to request amendment of educational records considered by them to be inaccurate or misleading or that violate privacy or other rights; and of their right to a hearing should the University decline to amend such records. This annual notice will be

published in the University's Bulletin.

The following guidelines have been developed to insure the privacy rights of students. For the purposes of this policy statement a student is defined as an individual who has been admitted and has been in attendance in a component unit of the University. Classification as a student in one component unit of the University (e.g., an undergraduate program) does not imply that the person has been accorded the rights outlined below in other component units (i.e., graduate school, professional schools, branch campus).

Student Access to Records

Students have the right to be provided a list of the type of educational records maintained by the University which are directly related to the student; the right to inspect and review the contents of these records; the right to obtain copies of these records; the right to a response from the University to reasonable requests for explanation and interpretation of these records; the right to an opportunity for a hearing to challenge the content of these records; and if any material or document in the educational record of a student includes information on more than one student, the right to inspect and review only the part of such material or document as relates to the student.

Students do not have access to financial records of their parents; confidential letters and statements of recommendation which were placed in the educational record prior to January 1, 1975, provided such letters or statements were solicited or designated as confidential and are not used for purposes other than those for which they were specifically intended; confidential recommendations, if the student signed a waiver of the right of access, respecting admission, application for employment, and the receipt of an honor or honorary recognition.

Students do not have access to instructional, supervisory or administrative personnel records which are not accessible or revealed to any other individual except a substitute; Campus Security records which are maintained apart from educational records, which are used solely for law enforcement purposes, and which are not disclosed to individuals other than law enforcement officials of the same jurisdiction; employment records except when such employment requires that the person be a student; and the Alumni Office records.

Students do not have access to physical or mental health records created by a physician, psychiatrist, psychologist or other recognized professional acting in his or her capacity or to records created in connection with the treatment of the student under these conditions which are not disclosed to anyone other than individuals providing treatment. These records may be reviewed by a physician or appropriate professional of the student's choice.

Procedures for Access

The Registrar's Office has a complete list of educational records maintained by the University which students may obtain. Students should contact the appropriate office to inspect and review their records. An office may require that a University official be present when a student inspects and reviews his or her educational records. Any questions concerning a student's access to records should be directed to the Registrar.

Release of Directory Information

Directory information may be released by the University without the student's written consent. Directory information consists of all items listed on the student's registration card, participation in recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, the most recent previous educational agency or institution attended, and other similar information.

A student may deny the release of directory information by requesting at registration that the information not be released. The student must notify the Registrar's Office in writing each quarter to deny the release of this information. To deny the release of participation in recognized activities the student must notify the Vice President for Student Affairs and the Academic Dean in writing. To deny the release of athletic information the student must notify the Director of Athletics in writing. A former student, one who is not in attendance, must contact the appropriate offices above to deny the release of directory information.

Release of Educational Records

The University will release a student's educational record(s) upon the student's written request. The student must:

- Specify the records to be disclosed.
- 2. Include the purpose or purposes of the disclosure.
- 3. State the party or parties and the address to whom the information is to be disclosed.

The student shall, upon request, receive a copy of the record that is to be disclosed. It is University policy to furnish single copies of a student's record at no charge except for the standard transcript fee, if applicable.

The University may release students' educational records to the following without prior written consent:

- 1. University officials who have a legitimate educational interest in the records. University officials are defined as teachers, administrative personnel and other employees except personnel of the security or law enforcement unit of Auburn University who in the performance of their normal duties require access to student records. If University officials are required in the performance of their duties to review the educational records of a student, this will be considered to be a legitimate educational interest.
- Officials of another school in which the student intends to enroll upon request of the transfer school.
- Government representatives of the Comptroller General of the United States, the Secretary
 of Education, the U.S. Commissioner of Education, the Director of the National Institute of
 Education, the Assistant Secretary for Education, State educational authorities, and State
 officials to whom such information is specifically required to be reported or disclosed by State
 law adopted prior to November 19, 1974.
- Appropriate authorities in connection with financial aid with the understanding that only the necessary records will be released.
- 5. Organizations conducting studies for, or on behalf of, the University or its agencies for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction and student life provided that the studies will not permit the personal identification of students and their parents by individuals other than representatives of the organization and provided that the personally identifiable information furnished will be destroyed when no longer needed for the purposes for which the study was conducted.
- 6. Accrediting organizations to carry out their accrediting functions.
- Parents of a dependent student as defined in section 152 of the Internal Revenue Code of 1954. University officials may release educational records to parents on the basis of a written certification from the parent that the student is a dependent as defined under the Code.
- A court of law to comply with a judicial order or lawfully issued subpoena with the understanding that the student will be notified in advance insofar as possible.
- 9. Appropriate parties to protect the health and safety of the student or other individuals in emergencies with the understanding that only information essential to the emergency situation will be released, that information will be released only to a party who would be in a position to deal with the emergency, and that the student will be notified insofar as possible of the information released, the purpose for the release, and to whom the information was released.

No personal information on a student will be released without a statement from the University to the party receiving the information that no third party is to have access to such information without the written consent of the student.

Each office with educational records will maintain a record of each request and disclosure of personally identifiable information from the educational records of a student except for information requested in writing by the student, information released to the student or the student's parents, directory information, and information released to University officials and teachers who have a legitimate educational interest in the records. The student may inspect the record of requests, disclosures and the legitimate interests of parties requesting or obtaining information in the appropriate University office.

Amending Educational Records

Students may request that any information contained in their educational records which they consider to be inaccurate, misleading, or in violation of their privacy or other rights be amended or deleted from the records. (A grade or other academic scores may not be amended, except that the accuracy of recording the information may be challenged.)

Students who request that information in their records be amended should first direct their request to the official with primary responsibility for the information on the record. If the matter is not resolved to their satisfaction, students should direct their requests to the official's dean or division head. If the matter is not resolved to their satisfaction, they may request a formal hearing.

Right to a Formal Hearing and Procedures for Decision

Students may request formal hearings to challenge information contained in their educational records. The hearing will be held in a reasonable time (not to exceed 45 days) and in a reasonable place. Students may be assisted or represented by persons of their choice, including an attorney, at the expense of the student, and shall be afforded a full and fair opportunity to present evidence relevant to the issue(s).

Students or their representative should request the hearing in writing and should specifically identify the information they seek to have amended. The request should be directed to the Vice President for Student Affairs.

The Vice President for Student Affairs will conduct the hearing and render a decision within a reasonable period of time after the conclusion of the hearing and the decision shall be based solely upon the evidence presented at the hearing. The student shall be notified in writing of the reason(s) for the decision and a summary of the evidence.

If the decision is that the information in the student's educational records is inaccurate, misleading or in violation of his rights and privacy, the statement(s) will be corrected or expunged from the student's records.

If the decision is that the information is not inaccurate, misleading, or in violation of the privacy or other rights of the student and that the information or parts thereof is to remain in the student's educational records, the student shall be notified and given the right to enter a statement in the records setting forth any reason for disagreeing with the decision of the Vice President for Student Affairs. This statement shall be maintained in the records as long as the record or contested portion thereof is maintained, and if the contested educational record or contested portion thereof is disclosed by Auburn University to any party, the student 's explanation shall also be disclosed to that party.

The Secretary of Education has established a review board to receive complaints regarding violation of students' rights. Students wishing to file a complaint directly to the review board should write to the Family Policy and Regulations Office, Department of Education, Washington, D.C. 20202. Detailed procedures for this complaint procedure are listed under section 99.63 of the regulations issued by the Secretary and will be furnished upon request by the Registrar, Auburn University.

This policy is adopted pursuant to the Family Educational Rights and Privacy Act, (34 CFR Part 99), and is not intended to impose any restrictions or grant any rights not specifically required by this Act.

Housing and Residence Life

Auburn University offers a variety of on-campus housing accommodations for students. There are 23 residence halls and 398 apartments to house single undergraduate students. There are 124 apartments available for married and graduate students. All facilities are convenient to classrooms, laboratories, libraries, cafeterias, laundries, mail rooms and recreational areas.

Residence Halls and Single Student Apartments

Apartments for single students are located in a section of Caroline Draughon Village and the CDV Extension. The residence halls, with the exception of Noble Hall located on West Magnolia Ave., are clustered in Iwo areas on the campus.

The Quadrangle Community consists of: Elizabeth Harper Hall, Helen Keller Hall, Mary Lane Hall, Kate Teague Hall, Kate Conway Broun Hall, Marie Bankhead Owen Hall, Ella Lupton Hall,

Letilia Dowdell Hall, Willie Little Hall, Allie Glenn Hall

The Hill Community consists of: Mollie Hollifield Hall, Stella Knapp Hall, Dixie Graves Hall, Zoe Dobbs Hall, Annie Smith Duncan Hall, Mary Boyd Hall, Camille Early Dowell Hall, Berta Dunn Hall, Marguerite Toomer Hall, Sara Sasnett Hall and two new halls, L and M.

Single student housing includes the following types of living options:

The Hill: (women) air-conditioned suites consisting of two double rooms (two rooms with two students sharing each room) with connecting bath: \$573 per student per quarter. Single rooms (smaller rooms with private bath) are available: \$650. The Hill residence halls are Hollifield, Duncan, Toomer, Dobbs, Dunn, Graves, Dowell, Knapp, Boyd, Sasnett and new residence halls L and M.

The Quad: (men and women) suites consisting of two double rooms with connecting bath: air-conditioned \$540 per student per quarter, not air-conditioned \$470. The Quad residence halls are Men – air-conditioned, Lane (engineers only) and Harper; no air-conditioning, Glenn. Women – air-conditioned, Broun, Little and Lupton; no air-conditioning, Keller and Owen (freshmen only) and Dowdell. Also in the Quad is the Honors Hall, Teague, housing both male and female Honors and academically-talented students. Teague is air-conditioned and rent is \$540 per student per quarter.

Noble Hall: (coed) air-conditioned, single (one person) rooms with microfridges (combination refrigerator/freezer/microwave units); community baths on each floor; common lobby area

joins men's and women's wing: \$525 per quarter.

The Extension (CDV Extension Apartments): All utilities except phone. Two-bedroom airconditioned, furnished apartments housing four students: \$509 per quarter per student.

The Village (CDV): See description under Married and Graduate Students.

Students must contact the Division of Telecommunications/ETV at (334) 844-0119 for telephone service.

The rents listed above are subject to change. Any rate increase will be announced prior to the cancellation date for the quarter the Housing Agreement takes effect.

Housing units designed to accommodate students with disabilities are provided in certain campus residence halls and in 14 apartments at the CDV Extension. These facilities include

wheelchair ramps, specially designed bathrooms and modified furnishings.

Residents' rooms are furnished with single beds, study desks, mirrors, chest of drawers, chairs, and closets. Residents may bring other furnishings including study lamps, linens, curtains or drapes, rugs or carpet, book shelves, radios, stereos, television sets, plants, posters and small refrigerators. Residents are encouraged to bring room fans for non-air-conditioned halls, but room air-conditioners are not allowed. Most residence halls have kitchens for use by the occupants and lounges for entertaining or watching television.

Apartment communities for single students (Caroline Draughon Village and CDV Extension) are within walking distance of all classroom buildings and recreation and sports facilities. Extension apartments feature all-electric kitchens with eating area, two bedrooms for four students, and a bathroom. Students bring their own linens, dishes, utensils and other items to personalize and clean their apartments. Basic TV cable service is included in the rent. Ample parking areas are located adjacent to each building. Laundry facilities, TV room, study lounge, large activities room and a convenience store/deli are located within the complex.

Teague Hall serves as the Honors Center and Residence Hall, housing both male and lemale honors and non-honors students. Students who have been accepted in the Honors Program and other students must specifically request Teague Hall on the Housing Application.

The Caroline Draughon Village Community consists of one and two-bedroom apartments. Undergraduates, including freshmen, graduate and married students, live in the Village.

Married and Graduate Students

Apartments for married and graduate students are located in a section of the Caroline Draughon Village. These apartments are grouped in two-story brick buildings of 8, 16 and 20 units. Each apartment has a separate outside entrance. The apartments feature all-electric kitchens, furnished living/dining rooms and bedrooms, closets, cabinets and baths with shower-tub combinations. A limited number of unfurnished apartments is available. Monthly rent includes heat, water, solid waste disposal, sewage, garbage pickup and TV cable. Electricity and telephone charges are the responsibility of the resident. Residents must contact Telecommunications/ETV (844-0119) for telephone service and Alabama Power (821-7204) about electricity in CDV.

The Village (Caroline Draughon Village): phone and electricity not included.

Two-bedroom (rates are per apartment per month. If roommate is required, roommates split the rent. Undergraduates, graduates, single and married students): Window a/c unit – \$300 furnished; \$289 unfurnished. Renovated (carpet, microwave, newer ceilings and kitchen units – \$328 furnished only. Central a/c unit – \$355 furnished; \$344 unfurnished.

One bedroom (rates are per apartment per month. Single undergraduate or graduate students (no roommates permitted), married couples and single parents with one child pay these rates. Window a/c unit – \$650 furnished; \$625 unfurnished. Renovated (carpet, microwave, newer ceilings and kitchen units – \$675 furnished only.

The rents listed above are subject to change. Any rate increase will be announced prior to the cancellation date for the quarter the lease is to begin.

A reservation in University Housing is not valid unless the applicant has been admitted to Auburn University.

Admission to Auburn University does not automatically include a space in University Housing. It is the responsibility of the student to make housing arrangements either on or off campus. Housing information is sent to entering students with their provisional acceptance to the University.

Students may apply for a living space by submitting a Housing Application/Agreement processing fee. Priority for housing is based upon the date of application and the number of quarters applied for.

The Housing Application and Agreement, when accepted, will be for a living space (apartment only, if married) in University Housing. In order to make a reservation, the Housing Application and Agreement must be returned to the Housing Office in Burton Hall by the appropriate deadline with \$115 for the housing deposit (\$100) and the application fee (\$15). The deposit is a combination room reservation/damage/room clearance deposit and is not applicable to rental payment, except on cancellation as provided within the Housing Agreement. The Housing Agreement outlines conditions under which refunds may be made.

University Housing officially opens for occupancy on the day preceding registration and schedule adjustment, and closes and must be vacated by the day following graduation each quarter. Residence halls do not remain open during Thanksgiving and Christmas breaks.

Rent for spaces/apartments in Caroline Draughon Village and Extension apartment communities includes holidays and between quarter breaks.

Paraprofessional Staff

Each living area is staffed with graduate-level Hall Directors and undergraduate Resident Assistants (RAs). These student advisors are selected from a large pool of applicants for their ability to effectively meet the needs of residents. They undergo an extensive training program, and are responsible for implementing cultural, recreational and educational activities and enforcing University Housing regulations. Typical activities include a faculty lecture series, study skills seminars, health and safety programs, computer instruction, peer tutoring, exercise classes, intramural sports activities, cookouts, dances and weekly movies.

Resident Involvement Opportunities

Each hall and apartment community has a Hall Council comprised of elected residents. Hall Councils coordinate, in conjunction with staff, special educational, social, cultural and recreational activities for residents. The Residence Hall Association, made up of all on-campus residents, also plans and conducts activities and communicates residents' suggestions and concerns to the Housing and Residence Life administration.

Off-Campus Housing

Privately-owned dormitories, fraternity houses, apartments, duplexes, houses and mobile homes provide housing for students in the greater Auburn-Opelika community.

The University neither inspects nor approves off-campus housing. However, the facilities must conform to federal regulations and to the local code of health and safety regulations.

A listing of off-campus housing facilities may be obtained by writing the offices of Housing and Residence Life, Admissions or Student Affairs,

Food Services

Auburn University Food Services is a non-profit organization supported entirely by food sales in the various Food Services operations located on campus. The individual operations, varying in size and composition, offer a wide variety of services to meet the needs of students, as well as faculty, staff, and visitors to the Auburn campus. All services offered to students are strictly on a voluntary basis and are available to students living both on and off campus. A brief synopsis of each unit's location and services follows:

War Eagle Food Court, in the Foy Student Union, offers complete cafeteria services and a full line snack bar. War Eagle also houses the University Faculty Club and is responsible for all University Catering.

Terrell Dining Complex, in The Hill community, offers full cafeteria services, a bakery outlet, and a snack bar that remains open late night.

The Li'l Eagle, on the west side of Terrell Cafeteria, provides convenience items for the Hill dorm residents, including baked goods, and grocery items.

The Hill, in the Terrell Complex, serves nightly, Sunday through Thursday.

The Kitchen Dell, in the Caroline Draughon Extension apartment village, contains a grocery outlet, a bakery outlet, meats and cheeses by the pound, and a take out only snack bar, that remains open late night.

Dow-Deli, in the basement of Dowdell Hall offers baked goods, make your own pizzas and sandwiches, grocery items, and health and beauty aids.

Take Ten, in the basement of Haley Center, is a fast-food operation featuring broiled sirloin burgers, chicken breast sandwiches, salads and drinks.

Sewell Cafeteria, in the athletic dorm, is operated by Food Services for scholarship athletes.

Meal Plan - The Chef's Club - Students may become members of the Chef's Club, Food Services meal plan. As members of the Chef's Club, students may choose between a prepayment plan or a charge plan. The pre-payment plan or "declining balance plan" allows the student to pay in advance, and budget that amount through the quarter. The charge plan offers students the convenience of charging their meals in any of the food service operations located on campus. There is a yearly membership fee for students joining the charge ascending plan and a minimum deposit for those joining the declining balance plan.

Students may receive credit approval by furnishing a parent's notarized signature as cosigner or by furnishing two credit references. Chef's Club charges are billed on a monthly basis and the total amount must be paid within ten days after the mailing. All Chef's Club bills must be paid before a student can register for the next quarter.

Many students who join the Chef's Club have a charge account for the first time. Chef's Club card holders need to be aware that charges can accumulate rapidly and all charges have to be paid. However, students soon learn that, with common sense and discretion, having a Chef's Club card can be both a fun and educational experience.

Additional information about the Chef's Club may be obtained from The Tiger Club Accounts, located in the Food Service Administration Building, Auburn University, Alabama 36849, Telephone: 844-1220.

Cash is accepted at all food operations located on campus. However, an advantage of a Chef's Club card or meal plan is that the student does not have to worry about carrying cash at all times during the guarter.

Student Health Services

Student Health Services is concerned with the health needs of students while attending Auburn and consists of outpatient services and limited inpatient day care. The outpatient clinic, equipped with modern x-ray and laboratory facilities, is staffed with physicians and nurses who provide primary care to the students. Preventive and educational programs are provided to help students function at their optimal level and to help prepare them for life after school.

Services, including personal assessment/counseling services, are made available through mandatory health fees which are paid with tuition. Most services are covered; however, fee for service charges may be made on tests and supplies to defray the cost. Services are available to currently enrolled students. A student's spouse may be treated upon registration in the spousal program at the Student Health Center.

Hours of Operation:

Fall, Winter and Spring Quarters Monday-Friday 8 a.m. - 4:30 p.m. Saturday 9 a.m. - Noon

....... Monday-Friday 8 a.m. - 4:30 p.m. Summer Quarter

Closed on University holidays. The Health Center closes at 4:30 p.m. on the day preceding a University holiday until 8 a.m. on the day following the holiday.

Between quarters service is available Monday-Friday to students registered for the next

guarter 8 a.m. - 4:30 p.m.

Student Insurance: The Student Government Association sponsors an Accident and Sickness insurance plan which is available to registered undergraduate and graduate students, spouses and dependents. The plan provides maximum coverage at minimum cost. Additional information on insurance is available at the Student Health Center. The SGA sponsored health insurance or equivalent is required for all international students, and recommended for all students.

Financial Aid

The Office of Student Financial Aid at Auburn University provides financial assistance to students who need aid in order to attend the University. The University believes that the amount of aid granted should be based on financial need. Students seeking assistance are required to file an application for Federal Student Financial Aid annually. Applications for aid should be completed in January or February of the year prior to the academic year in which the student will need assistance. Application materials and a brochure describing available aid programs may be obtained from the Office of Student Financial Aid, 203 Martin Hall.

The financial aid which students may receive includes scholarships, grants, loans and part-

time employment.

Scholarships may be awarded to undergraduates who have shown high academic attainment and promise. Some scholarship programs also require a demonstration of financial need. Federal Pell Grants are provided to undergraduate students who demonstrate exceptional need. Federal Supplemental Educational Opportunity Grants are available, in limited number, to undergraduates with financial need.

Federal Perkins Loans, Federal Direct Stafford Loans, and Institutional Loans provide longterm, low interest loans to students. Some loans require demonstrated financial need.

The Federal College Work-Study Program provides part-time employment for students who demonstrate financial need. The Health Professions Loan Program makes available long-term loans for students in Pharmacy and Veterinary Medicine.

Graduate students may be eligible for teaching and research assistantships and traineeships. Information is available from the department of the student's major field.

Employment

Students seeking part-time employment while attending the University should contact the Student Employment Service. As a referral agency, the service assists students in finding employment on campus as well as maintaining bulletin boards with notices of job openings with businesses and industries in the local area. Jobs are made available on a first-come, firstserved basis and are dependent upon the skills of the applicant.

Auburn University employs more than 2,500 students on an hourly basis. The number of hours a student may work is dependent upon hours enrolled, but usually ranges from 10-30

hours per week.

More information may be obtained from the Student Employment Service, 300 Martin Hall.

Student Development Services

Career Counseling Services provides confidential assistance to students who need help with career exploration, curriculum selection, study skills, and developmental concerns. A career library is organized to provide accurate and current information about a variety of careers. Seminars and workshops of interest to students are offered quarterly. Visit 304 Martin Hall or call 844-4744.

Study Partners Program offers free tutoring in a variety of courses each quarter. Come by 304 Martin Hall or call 844-4744.

Testing Services supports the above counseling process through the provision of a wide variety of inventories and tests as well programmed kits to improve study skills. Additionally, Testing Services is a center for many national testing programs such as ACT, SAT, GRE, CLEP, and GED. Come by 315 Martin Hall or call 844-5972.

Placement Services assists students and alumni in developing job search skills and offers opportunities to interview with prospective employers for full-time, intern and summer positions. Assistance is provided through individual counseling and workshops to develop job search skills and strategies. Students should visit Placement Services, 400 Martin Hall, or call 844-4313, one year prior to graduation.

Student Activities

Student Communications - The following media are subject to supervision by the Board of Student Communications. The Auburn Circle, a general interest magazine; Glomerata, the yearbook issued each spring; The Auburn Plainsman, the weekly student newspaper; Tiger Cub, annual student handbook; WEGL-FM, the student operated campus radio station.

The Foy Union - The focal point for co-curricular student activities and other campus programs. Housed within the confines are *The Auburn Plainsman, Glomerata*, WEGL-FM, Graduate Student Organization, SGA, IFC, University Program Council, Special Programs, Eagle Eye (TV), Black Student Union, International Student Organization, Panhellenic, *Tiger Cub, The Auburn Circle*, War Eagle Cafeteria, Alpha Phi Omega Book Exchange, National Panhellenic, a microcomputer lab, a recreation room, a reading room, a woodworking hobby shop, a copy center, Sweet Shop, an exhibit gallery, a lost and found service, an automated teller machine, several lounge areas, a large screen TV, and an assortment of meeting and banquet facilities. A University-wide information center, a calendar of events and a Fastix machine are maintained by the Union staff.

Langdon Hall - This auditorium is located next to historic Samford Hall and has a capacity for about 500 people. This is the site of the weekly UPC free movie. It may be reserved for University-related events by contacting the Reservations Coordinator at 844-1303.

James E. Martin Aquatics Center - Provides two swimming pools for use by Health and Human Performance classes, intercollegiate athletics, intramural and club sports, students, faculty, staff and community members. Programs and events are planned and staffed to provide a healthy and safe aquatic environment. For information regarding programs and hours of operation, call 844-4182.

The University Program Council - Serves as a clearing house for campus programs as well as providing a wide range of programs and entertainment through the following committees: Fine Arts, Major Entertainment, Horizons, Publicity, Special Events, Outdoor Recreation, Indoor Recreation, Films, Religious Affairs, Publications, Technical, Volunteerism, Eagle Eye and Public Relations. The experience students acquire in planning and executing these programs offers them the opportunity to enhance their personal growth and development.

The University Chapel - Located on the comer of South College Street and Thach Avenue, is open on weekdays for students, faculty, and staff. It is used for prayer and meditation. The Chapel may be reserved for weddings, religious and certain other University events by contacting the Reservations Coordinator, Foy Union at 844-1303.

Recreational Services - The University offers a well-rounded program of intramural sports and provides a variety of facilities for recreation. Healthful sports, good sportsmanship, and friendly competition are stressed, and all students are urged to participate.

For more information, consult the Recreational Services handbook which can be obtained at the Recreational Services Office on the second floor of the Student Activities Center.

Discipline - Auburn University establishes and enforces only those rules and regulations for conduct as are needed to maintain the well-being of the individual student and the University community. The student, by registering at the University, agrees to conform with its regulations.

The student is subject to disciplinary action for violating any section of the Code of Student Discipline, which appears in full in the student handbook, the *Tiger Cub*. Enrollment in no way exempts any student from penalty in case of conviction by public authorities for commission of an illegal act.

Music, Theatre and Lectures - Classical concerts, touring play productions, lectures by political figures, news commentators, specialists and prominent scholars, traveling and local shows at the art galleries, opera, ballet and films are among the special events of the year at the University. Many of these activities are free.

The University Concert Choir, the Choral Union, University Singers, the Marching and Concert Bands, the University Orchestra and the Opera Workshop offer opportunities for those who want to perform in Musical groups.

Eight or nine productions annually are offered by the AU Theatre. Students are welcome to audition for any production, but priority in casting is given to theatre majors and minors.

The Auburn Studio of the Alabama Public Television Network produces programs which are seen throughout the state on the Alabama Educational Television network. WEGL-FM is the campus radio station, operated by students.

Special Programs - The Office of Special Programs provides programming activities for Auburn's diverse student population including African American students, other minority students, international students and returning adult students. Additional information is available from the office in 118 Foy Union or by calling (334) 844-2353.

Student Government Association

Upon enrollment at Auburn University, each student becomes a member of the Student Government Association, the official organization of the student body. The SGA is the voice of the students, promoting cooperation and communication with the faculty, administration, the Auburn City Council, and the state legislature. The SGA also promotes the social and academic life of Auburn students.

The SGA is organized into three branches. Headed by the SGA President, the executive branch takes on many special projects through the Executive Cabinet. The legislative branch, the SGA Senate, is made up of representatives of each school and college. The judiciary branch makes final judgment on all decisions involving the Code of Laws. The Student Government Constitution and Laws, published in the *Tiger Cub*, detail the functioning of the student government.

Organizations

The student handbook, *Tiger Cub*, available in Cater Hall and Foy Union, has a complete listing of the more than 300 chartered and officially recognized organizations on the Auburn campus. Most of these organizations are open to any interested student.

Among the national organizations on campus are honor societies, national recognition societies, social sororities and social fraternities.

National Honor Societies

The following members of the Association of College Honor Societies have established chapters at Auburn:

Alpha Delta Mu (Social Work), Alpha Epsilon (Agricultural Engineering), Alpha Epsilon Delta (Pre-Medicine), Alpha Kappa Delta (Sociology), Alpha Lambda Delta (Freshman Scholarship), Alpha Phi Sigma (Criminal Justice), Alpha Pi Mu (Industrial Engineering), Alpha Sigma Mu (Metallurgical & Materials Engineering), Beta Alpha Psi (Accounting), Beta Gamma Sigma (Business), Cardinal Key (Junior Leadership), Chi Epsilon (Civil Engineering), Eta Kappa Nu (Electrical Engineering), Kappa Delta Pi (Education), Lambda Sigma (Sophomore Leadership), Mortar Board (Student Leadership), Omega Chi Epsilon (Chemical Engineering), Omicron Delta Kappa (Student Leadership), Omicron Nu (Home Economics), Phi Alpha Theta (History), Phi Eta Sigma (Freshman Scholarship), Phi Kappa Phi (Senior Scholarship), Pi Delta (Prench), Pi Lambda Sigma (Pre-Law), Pi Sigma Alpha (Political Science), Pi Tau Sigma (Mechanical Engineering), Psi Chi (Psychology), Rho Chi (Pharmacy), Sigma Delta Pi (Spanish), Sigma Gamma Tau (Aerospace Engineering), Sigma Pi Sigma (Physics), Sigma Tau Delta (English), Tau Beta Pi (Engineering), Tau Sigma Delta (Architecture & Allied Arts), Xi Sigma Pi (Forestry).

National Recognition Societies

The following national societies have chapters established at Auburn:

Alpha Epsilon Lambda (Graduate), Alpha Eta Rho (Aviation), Alpha Kappa Psi (Business), Alpha Phi Omega (Service), Alpha Psi Omega (Theatre), Alpha Tau Alpha (Agricultural Education). Angel Flight (Air Force ROTC Auxiliary). Arnold Air Society (Air Force ROTC), Beta Beta Beta (Biology), Block and Bridle (Animal Husbandry), Delta Nu Alpha (Transportation), Delta Omicron (Music), Delta Sigma Pi (Commerce & Business Administration), Gamma Sigma Delta (Agriculture), Golden Key National Honor Society, Kappa Kappa Psi (Band), Kappa Psi (Pharmacy), Lambda Tau (Medical Technology), National Student Speech, Language, Hearing Association (Communication Disorders), Omicron Delta Epsilon (Economics), Omicron Kappa Pi (Architecture), Order of Omega (Greek Leadership), Phi Delta Kappa (Education), Phi Delta Chi (Pharmacy), Phi Lambda Sigma (Pharmacy), Phi Lambda Upsilon (Chemistry), Phi Mu Alpha (Music), Phi Psi (Textiles), Phi Zeta (Veterinary Medicine), Pi Alpha Xi (Horticulture), Pi Lambda Theta (Education), Pi Mu Epsilon (Mathematics), Pi Sigma Epsilon (Marketing), Scabbard and Blade (Military), Semper Fidelis (Marine Corps ROTC), Sigma Delta Chi (Journalism), Sigma Gamma Epsilon (Earth Sciences), Sigma Lambda Chi (Building Construction), Sigma Theta Tau (Nursing), Sigma Xi (Scientific Research), Society for Technical Communication (Liberal Arts), Steerage (Navy ROTC), Tau Beta Sigma (Band), Upsilon Pi Epsilon (Computer Science).

Sororities

Alpha Chi Omega, Alpha Delta Pi, Alpha Gamma Delta, Alpha Kappa Alpha, Alpha Omicron Pi, Alpha Xi Delta, Chi Omega, Delta Delta Delta, Delta Sigma Theta, Delta Zeta, Kappa Alpha Theta, Kappa Delta, Kappa Kappa Gamma, Phi Mu, Pi Beta Phi, Sigma Kappa, Zeta Phi Beta, Zeta Tau Alpha.

The Panhellenic Council coordinates the activities of its member groups.

Social Fraternities

Alpha Gamma Rho, Alpha Kappa Lambda, Alpha Phi Alpha, Alpha Psi (professional), Alpha Tau Omega, Beta Theta Pi, Chi Phi, Delta Chi, Delta Sigma Phi, Delta Tau Delta, Delta Upsilon (colony), FarmHouse, Kappa Alpha Order, Kappa Sigma, Lambda Chi Alpha, Omega Psi Phi, Phi Beta Sigma, Phi Gamma Delta, Phi Kappa Tau, Pi Kappa Alpha, Pi Kappa Phi, Sigma Alpha Epsilon, Sigma Chi, Sigma Nu, Sigma Phi Epsilon, Sigma Pi, Tau Kappa Epsilon, Theta Chi, Theta Xi.

The Interfraternity Council coordinates the relationships among the member fraternities.

Related Programs and Activities

Cooperative Education Program

The Cooperative Education program provides opportunities for students to alternate quarters of academic study with experience in industry, business and government agencies.

Coordination of study and work combines theory and practice. As a result students find increased meaning in and motivation for their studies. This experience helps to develop a sense of responsibility, judgment, and maturity. Students also benefit financially, since they are paid for their work.

In four-year undergraduate curricula, the Cooperative Education Program is a five-year plan. A student must complete at least two quarters of the freshman year with an above average scholastic record before "being placed" with an employer. Cooperative Education is offered in all curricula of the Colleges of Agriculture, Business, Education, Engineering, Liberal Arts, and Sciences and Mathematics; in all curricula of the Schools of Forestry and Human Sciences; and Architecture, Building Science and Industrial Design in the School of Architecture.

A graduate Co-op Program is arranged for certain students in the master's and doctoral programs where employers can provide professional experiences which relate directly to the student's specialized field of study.

Additional information may be secured from the Director, Cooperative Education, Auburn University, Alabama, 36849-5123.

Independent Study

The Independent Study program provides undergraduate and non-credit correspondence instruction, designed primarily for persons unable to attend college on a regular basis. Courses are also open to enrolled students with their dean's permission. The credit courses parallel those given in the University, award college credit, and are taught by instructors approved by the relevant academic department. Any person is eligible for enrollment, although enrollment is not equivalent to admission to the University.

Upon registration the student receives a course manual and instructions. The student will be required to do assigned reading, submit written assignments, and possibly do supplemental work. A supervised final examination is given upon completion of all course assignments. Any on-campus student trying to satisfy graduation requirements by independent study must complete all course work and final examinations 30 days prior to graduation.

Although graduate credit cannot be earned by correspondence, certain undergraduate deficiencies may be cleared.

Persons typically enroll in a correspondence course (1) when job or family responsibilities prevent on-campus study; (2) when classroom schedules conflict or a course is unavailable during the quarter it is needed; (3) when a person has been away from formal study for some time and wishes to get back in stride; (4) when a person is away from campus during the summer or while participating in a cooperative education program.

Courses are available from the following fields: biology, economics, geography, health, mathematics, physical education and recreation, history, nutrition and foods, political science, law enforcement, psychology, sociology and vocational and adult education.

Fees for correspondence courses are listed under Fees and Charges. See also Off-Campus Credit in the section on Academic Regulations. Application forms and a course bulletin are available from Distance Learning, 204 Mell Hall, Auburn University, Alabama 36849-5611, Telephone: (334) 844-5103.

Special Clinics

The Speech and Hearing Clinic of the Department of Communication Disorders, primarily a teaching facility, provides service for students with speech, hearing or language problems. These services may involve both diagnoses and treatment of problems.

Bookstores

The Auburn University Bookstore, owned and operated by the University, is located in Haley Center and offers a full line of new and used textbooks, computers, software and other instructional materials. Alpha Phi Omega service fratemity sponsors a nonprofit bookstore in the Foy Union Building where students may purchase and sell textbooks. Commercial book outlets also exist in the city of Auburn.

Parking Permit Registration

It is the responsibility of students and employees of Auburn University operating a vehicle on campus to register for and display a parking permit as prescribed in the Auburn University Parking and Traffic Regulations manual.

Vehicles with Alabama State Government tags must adhere to all University traffic and parking rules and regulations pertaining to motor vehicles. State vehicles may park in designated A, B, C and R zones and in designated Loading Zones for a period not to exceed 15 minutes.

Parking permits are valid for a one-year period beginning September 1 and ending August 31 of the next year. Normal registration period for all employees is between July 31 and August 31. All registration during this period is conducted by mail. Normal registration for students occurs between September 1 and September 30, as well as between quarters and before classes begin.

All permit registration is conducted by the Parking and Traffic Services Office. Employees are mailed preprinted forms, which are to be returned to Parking Services along with the proper registration fee or with approval for payroll deduction. Parking and Traffic Services will return by mail the appropriate hang tag permit. All students must register for a parking permit at the Auburn University Police Department or other designated location. Office hours for permit registration are 7:15 a.m. - 4:15 p.m., Monday through Friday. All fine payments and student permit registration payments are made at the Bursar's Office, Quad Center.

Academic Affairs

Academic Programs and Curricula

An Academic Program is a plan of study which leads to a degree. It includes all courses required by the University and those required by a school, college, department or interdisciplinary program. The minimum number of quarter hours in an undergraduate degree program is 180, including 61 hours of the core curriculum and at least three hours of free electives. A program option is a formal modification of an academic program. A major consists of a specified group of courses offered by an academic department or interdepartmental program. At Auburn, a major must require at least 45 hours of course work, 30 of which must be in upper-division courses in the field. A minor is an organized sequence or cluster of courses offered by a department or interdepartmental program and approved by the University Curriculum Committee, Supporting courses are courses required in a program but not included in the University, College or School core curriculum, the major, the minor, or free electives.

Academic Program Assessment

Auburn University is committed to the assessment of its academic programs. Departments and faculty have various procedures for assessing program effectiveness. Some of these may require that students take comprehensive or exit examinations in their major or examinations at other points during the completion of the requirements for the degree.

Auburn University's Core Curriculum

Auburn University's Core Curriculum provides a shared learning experience to all Auburn undergraduates. To this effect, the core curriculum is based on the principles of common learning, coherence and integration. Common learning refers to a body of knowledge, skills and emphasis that will be required in every student's program. Coherence is achieved by course sequences and by providing connections among courses. Integration is accomplished through interdisciplinary courses.

The core curriculum seeks to foster the development of educated citizens through its pursuit of three goals:

The development of the student's analytical skills. Courses are designed and taught to allow students to discern significant issues and events; ask appropriate questions; approach problems; gather, synthesize and interpret information; critically analyze established positions; and use knowledge creatively for the enhancement of society.

The nurture of the student's ability to communicate. The core curriculum requires extensive reading in literature, history and the sciences. The core curriculum promotes writing by requiring courses designed for that purpose and by including writing reinforcement courses in the student's curriculum.

The encouragement of the student's appreciation for their culture and the world in which they live. The core curriculum is concerned with the natural world, human behavior, history, moral values, technology, great ideas, aesthetic relationships and society.

CORF CURRICULUM

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Core Requirement	Course Options or Honors Courses	Hours
English Composition (10)	EH 110 English Composition or	5
-	EH 115 Writing Seminar	
	EH 400 Advanced Composition or	5
	EH 404 Technical Writing or	
	EH 408 Business and Professional Writing	
History (9)	HY 101-102-103 World History	3-3-3
	or	
	HY 121-122-123 Tech. and Civilization	3-3-3
	or	
	U 270-271-272 Human Odyssey	3-3-3
Literature (10)	EH 220-221 Great Books I & II	5-5

General Information

Science (10)	
	or A 10 had
	A minimum of 10 hours in a single sequence (including labs) in biological science, chemistry, geology or physics
	Acceptable science sequences:
	BI 101 AND 102 or 103 or 106 or 107
	BI 105 AND 106 or 107
	CH 101, 102, 103L, 104 AND 104L
	CH 103 and 104, with labs
	CH 111 and 112, with labs
	GL 110 and 111
	PS 205, 206 and 207, with labs
	PS 220, 221 and 222, with labs
Mathematics (5)	
	math course for which these are a prerequisite
Philosophy (5)	PA 101 Introduction to Logic or
	PA 102 Introduction to Ethics or
	PA 201 Deductive Logic or
	PA 218 Ethics and the Health Profession or
	PA 219 Business Ethics
Social Science (9)	U 101 Social Science: Society and Culture 3
	U 102 Social Science: Political Economy 3
	U 103 Social Science: Individual and Society 3
Fine Arts (3)	MU 373 Music Appreciation or
	TH 200 Introduction to Acting and Directing or
	TH 201 Introduction to the Theatre or
	AR 360 Appreciation of Architecture or
	AT 171 History of Art I or
	AT 172 History of Art II or
	AT 173 History of Art III

English Composition Requirements

Students who began collegiate study Fall Quarter 1991 or thereafter must complete the English Composition requirements listed in the Core Curriculum: five quarter hours of freshman composition (EH 110, 115 or 118) and five quarter hours of junior-level composition (EH 400, 404 or 408).

Students who began collegiate study at Auburn before Fall Quarter 1991 must satisfy the nine-quarter-hour freshman composition requirement of Auburn's previous Liberal Education Program. This requirement must be satisfied in one of two ways; (1) with nine or more quarter hours of composition in courses involving no duplication, or (2) with nine or more quarter hours of credit in English courses, at least one of which must be a composition course. In addition to the composition courses listed for the core curriculum, relevant courses include EH 220 and 221. However, course work used to meet the composition requirement may not be work used to meet another requirement in the student's curriculum.

Transfer students may satisfy the relevant requirements above with analogous courses from another institution completed with a grade of **C** or better. Transfer students should confer with their advisors concerning the composition requirement as soon as possible after enrolling at Auburn University.

Transfer students awarded advanced standing credit for composition at another institution will be awarded analogous credit at Auburn only if they have completed a subsequent composition course at the other institution with a grade of **B** or better.

Students entering an undergraduate school at Auburn University after receiving a bachelor's degree from an accredited institution are exempted from meeting these requirements.

All Students: Any student failing a composition course at Auburn University must repeat that course and any subsequent required composition course at Auburn University (Main Campus).

Students or advisors with special questions about placement or credit for composition may call the Director of Composition (334) 844-4620.

Literature Requirement

Students who began collegiate study Fall 1991 or thereafter must complete the literature requirements listed in the Core Curriculum (10 quarter hours of EH 220-221, Great Books, or EH 281-282, Honors Great Books). Sophomore standing is a requirement for EH 220, and EH 220 is a prerequisite for EH 221.

Students who began collegiate study before Fall 1991 must satisfy the graduation requirements of their major, which may or may not include literature.

Transfer students may complete the relevant requirements above with analogous courses from another institution completed with a grade of **C** or better. For transfer purposes, any literature course at the sophomore level or above will be accepted as analogous to EH 220-221. However, only the first course in a world literature sequence will be accepted as meeting the prerequisite for EH 221. Transfer students with credit in another literature course may, of course, take EH 220.

Students or advisors with special questions about placement or credit for Great Books may call the Director of Great Books (334) 844-4620.

History Requirements

One of the purposes of the University's Core Curriculum is to give students an understanding of their culture and its backgrounds. Course sequences designed especially for this purpose are those in world history, technology and civilization and the Human Odyssey, an interdisciplinary science-humanities sequence of courses focusing on significant cultural shifts caused by discovery or invention. Students must earn nine hours of credit in one of these sequences.

Credit in history earned at another institution may be allowed on transfer as shown below in meeting this particular requirement. The student's dean may require a C grade for a course to transfer.

- If transfer students have three or four quarter hours in the first course of a three-course sequence in world history or western civilization or technology and civilization, they must complete HY 102 and 103 (for world history and western civilization) or HY 122 and 123 (for tech. and civ.). A transfer student who had taken the last course in a similar three-course sequence would take HY 101 and 102 or 121 and 122.
- If transfer students have four or five quarter hours of credit in the first course of a two course sequence in world history, western civilization or technology and civilization, they must complete HY 103 (for world history and western civilization) or HY 123 (for tech. and civ.). A transfer student who had taken the last course in a similar two-course sequence would take HY 101 or 121.
- Students who have earned eight or more quarter hours in world history, western civilization
 or technology and civilization courses accepted as equivalent by the Auburn University
 Transfer Guide for the Alabama College System (or courses of comparable topics and time
 periods from other states) are exempt from the history requirement of the Core Curriculum.
- Students entering an undergraduate program at Auburn, after earning bachelors' degrees from other accredited universities, may be exempted from the history requirements unless their curricula specify one of the three sequences described in this section.
- Students with no credit hours in history may also elect to take Human Odyssey, U 270, 271 and 272 to fulfill the Core Curriculum history requirement.

Oral Communication Requirement

All Auburn University bachelor's degree programs provide components to ensure competence in oral communication skills. Program information documenting oral communication components is maintained in the Office of the Provost/Vice President for Academic Affairs. Appropriate accommodations will be made to enable individuals with disabilities to satisfy this requirement.

The English As A Second Language Program

The English as a Second Language (ESL) Program offers English language instruction for international students and visiting scholars. The program offers instruction in writing, reading and conversational skills for Aubum University undergraduate and graduate students, as well as international research associates and scholars visiting Aubum. In addition, the ESL program provides assistance in the development of teaching skills to international GTAs. For more information about the ESL program, call the Director of ESL (334) 844-5779.

The University Honors Program

The Honors Program at Auburn is part of a long tradition. Swarthmore College established the first honors program in this country in 1922, using as its model the Oxford tutorial system, in which small classes of students and faculty studied the Greek and Latin classics. Other models for honors programs and classes include the Socratic dialogues, the German seminars, and the European guild system.

Drawing on these traditions, the University Honors Program offers gifted Auburn students the advantages of a small school or college in the context of a large University. It is designed for students capable of advanced work, and it provides a unique opportunity for academic excellence. The program selects 180 entering freshmen each year; these students may be enrolled in any College or School of the University which has undergraduate programs or offerings. Students already enrolled at Auburn can also qualify for the Program.

The Honors Center is currently located in the Ralph B. Draughon Library and houses the offices for the director, assistant director and secretary. Teague Hall is the Honors Residence Hall, located in the Quad, and provides a place for the students to live, learn, and relax together. Computers, typewriters, and reference materials are available in the Honors Student Center in the basement.

Curriculum

The University Honors Program has two divisions. The curriculum of the lower division consists of honors sections of the required University Core Curriculum courses. Completion of these courses is recognized by a Junior Honors Certificate. The curriculum of the upper division consists of upper-level "contract" courses (as well as reading/thesis courses for those involved in the thesis option), completion of which is recognized by a Senior Honors Certificate. Students can participate in either or both of these programs. Those who complete both programs with a grade point average of 3.4 will graduate as University Honors Scholars. This distinction is noted on students' diplomas and transcripts.

Benefits of Membership

Honors classes are taught in small sections, and are designed to provide for in-depth dialogue and interaction between students and faculty. All honors sections are taught by professorial faculty.

Entering freshman are introduced to the University Honors Program through the Summer Honors Orientation sessions where introductions to faculty and fellow students are made and friendships begin. Amenities are provided in our Honors Residence Hall to encourage this interaction. The mentor program, organized by upperclass honors students, further assists new students as they adjust to university life. From their second quarter in the program, Honors students are given priority at registration to ensure timely progress through their curricula. Participation in the Honors Lyceum offers students a unique opportunity to focus on such issues as leadership, career planning, creativity, and problem-solving. During their final quarters, Honors thesis students are given library carrel privileges. As an ongoing service Honors students are provided assistance in identifying and applying for scholarships and awards.

Participation in the Honors Program exposes students to a wide range of intellectual and academic experience, gives students the opportunity to form lasting friendships with other students committed to academic excellence, and promotes rewarding interaction between students and teachers. As a result of their special college experience, Honors students have a distinct advantage in their future pursuits, whether they go on to graduate or professional school, or directly into their chosen professions.

Admission to the Program

Entering freshmen and currently enrolled students who demonstrate the potential for outstanding academic achievement are eligible for admission into the University Honors Program. Selection of incoming freshmen is based on ACT/SAT scores (29/1200 respectively), high school grade point average (3.5 minimum), and the candidates' leadership and activities. The selection process is highly competitive; it begins in February each year and continues until 180 spaces are filled. Students currently enrolled at Aubum who have a 3.4 cumulative grade point average may also be considered for admission; interested students should contact the University Honors Program office for more information.

The Prestigious Scholarship Program

The staff of the Honors Program has the responsibility for Identifying and developing students to compete for prestigious national and international scholarships (Rhodes, Marshall, Mellon, Fulbright, Rotary, and others). These scholarships have different requirements ranging from a major emphasis on academic achievement to emphasis on all-around ability. Viable candidates must have a 3.6 grade point average and have had leadership positions in many extracurricular organizations.

Edgar Gentle, '78 AU graduate and Rhodes scholar, has pointed out that many Aubum students can compete successfully for these scholarships if they will only take the time to apply and prepare. According to Mr. Gentle, "A Rhodes scholar is a person with a good academic record and a long dossier of extracurricular activities who got lucky. Two or three seniors at Aubum at any given time are on [an] equal plateau [with other candidates nationally]." He feels that all students who get involved in the process benefit - whether they win or not, they significantly broaden their understanding. Those who do win one of these scholarships find it to be a life-changing experience.

Honors Study Abroad Program

The University Honors Program provides unique opportunities for academic excellence and enriching experiences - one of these is our Honors Study Abroad Program. The intention of the Program is to provide the opportunity for Honors students to broaden and deepen their educational and cultural experiences through foreign travel and study. Through this program, Honors students become more aware of the rich, diverse complexity of the broader world. This program enables the students to work within their curriculum and complete Honors courses.

There are opportunities for yearlong study programs through the Honors Junior Year Abroad programs as well as possibilities for term or summer study programs. Information about this program and the participating universities are available at the Honors Center and the Office of International Programs.

The Honors Curriculum

The Honors Curriculum has been developed to provide honors students during their first two years an opportunity for broad, enriching educational experiences, and in their last two years opportunities for more focused and in-depth studies in their chosen discipline. Completion of the requirements for either the Junior or Senior Honors Programs leads to an Honors Certificate; completion of both leads to the designation, upon graduation, of *University Honors Scholar*.

Junior Honors Program

To receive the Junior Honors Certificate, each student is required to:

- a. complete a minimum of 30 credit hours of Honors Core Courses, not including the Honors Writing Seminar or Honors Lyceum, (61 credit hours of core courses are required of all Aubum students).
- b. complete the Honors Writing Seminar, EH 118 (5 hours),
- c. complete Honors Lyceum (1 credit hour),
- d. attend two of the three Honors Convocations each year, and
- e. maintain a 3.2 gpa.

HONORS CORE COURSES

U 277	Honors Lyceum
EH 118	Honors Writing Seminar
EH 281	Honors Great Books Seminar
EH 282	
HY 171, 191 or U	280 Honors History Seminar

General Information

HY 172, 192 or U 281	Honors History Seminar	. 3
MH 172	Honors Calculus	.5
CH 172, BI 171, PS 170	Honors Science Seminar	. 5
	Honors Science Seminar	
U 171	Honors Soc. Sci. Seminar: Society, Culture & Environment	. 3
U 172	Honors Soc. Sci. Seminar: Political Economy	. 3
U 173	Honors Soc. Sci. Seminar: The Individual & Society	. 3
MU 172 or TH 270	Honors Fine Arts Seminar	. 3
PA 220 or 222	Honors Philosophy Seminar	. 5
EGR 450	Honors Engineering Seminar	. 5

Senior Honors Program

Thesis and Contract Options

To receive the Senior Honors Certificate, the student has two options to consider.

- 1. The Thesis Option: Each student that selects this option is required to
 - a. complete the Advanced Honors Writing Seminar, EH 487 (5 credits),
 - b. complete 4-6 hours of contract courses in their curriculum (300 level or above),
 - c. complete Honors Reading & Special Topics and/or Honors Thesis (3-10 hours),
 d. complete the upper level Honors Lyceum.
 - e. attend two of the three Honors Convocations each year, and
 - e. maintain a 3.2 overall gpa.

The total credit hour requirement for the Senior Honors Certificate, Thesis Option, is 12-21 credit hours. Some curricula may require a senior project/thesis which may satisfy the Honors Thesis requirement of 3-10 hours.

- 2. The Contract Option: Each student is required to
 - a complete the Advanced Honors Writing Seminar, EH 487 (5 hrs).
 - b. complete 15-16 hours of contract courses in their curriculum (300- level or above),
 - c. complete the upper level Honors Lycseum,
 - d. attend two of the three Honors Convocations each year, and
 - d. maintain a 3,2 overall gpa.

The total credit hour requirement for the Senior Honors Certificate, Contract Option, is 20-21 credit hours.

University Honors Scholar

To graduate as a *University Honors Scholar* students must complete all of the requirements for the Junior and Senior Honors Certificates (48 to 57 total credit hours), the requirements for their discipline, and have a minimum cumulative grade-point average of 3.4.

The Institute For Latin American Studies

The Institute for Latin American Studies (ILAS) helps coordinate Auburn University's significant presence in Latin America. ILAS further contributes to Auburn's growing international emphasis by supporting Latin American-related research, instruction and extension across the campus. ILAS is involved in establishing agreements with foreign universities, developing and assisting with study abroad programs, sponsoring faculty travel for research, strengthening the international curriculum, sponsoring special presentations, publishing informational material and soliciting outside funds.

The Study Abroad/Exchange Program

Auburn University students may choose to study abroad in one of the more than 50 programs available in 25 countries around the world. Core, major and elective courses may be taught in English and/or in one of several foreign languages. Programs range in length from one month to a full calendar year. Recommendations, grade point and quality of application are criteria for acceptance into the Study Abroad Program.

The Auburn Abroad registration allows participants to retain AU student status for approved study abroad programs. A prior estimation of credit may be obtained and students may apply financial aid to most study abroad programs.

The Study Abroad/Exchange Office (146 Business Bldg.) provides guidance, program descriptions, applications and Auburn Abroad registration information.

School and College Curricula

This section of the *Bulletin* lists the schools and colleges alphabetically and provides information about curricula within them as well as general descriptions of interdepartmental and interdisciplinary curricula and ROTC programs. Information about most college and school undergraduate admission, retention and graduation standards as well as other information about the college or school is also provided here. Each undergraduate academic program offered by a school or college is presented in a curriculum model with required and elective courses listed in a possible quarter-by-quarter sequence. These models are provided as guides to help students and advisors plan the individual student's course of study. Students should realize, however, that it may not be possible to schedule every course in the year and quarter as presented. Careful planning with the help of an academic advisor is usually necessary if students are to complete their programs in a timely manner and meet all course prerequisites.

All undergraduate curricula can accommodate six hours of basic and six hours of advanced ROTC; military science courses may be taken in place of electives, and in some curricula, with permission, in place of certain required courses.

Graduate School programs and courses are listed in the Graduate Bulletin.

Interdepartmental and Interdisciplinary Curricula

Agricultural Engineering (AN)

THE CURRICULUM in Agricultural Engineering is coordinated by the College of Agriculture and the College of Engineering. See the College of Agriculture and the Department of Agricultural Engineering in the College of Engineering for further information.

Certificate In Aging Studies

THE CERTIFICATE in Aging Studies is a multi-disciplinary program designed for students interested in problems of aging persons which will give them a general competency in gerontology. Students enrolled in any curricula can pursue additional course work required for the Certificate. See the School of Human Sciences for further information.

Environmental Science (ENS)

THE CURRICULUM in Environmental Science is an interdepartmental program based on the strengths of Auburn University in the engineering, biological and physical sciences. See the Department of Civil Engineering in the College of Engineering for further information.

Forest Engineering (FYE)

THE CURRICULUM in Forest Engineering is coordinated by the School of Forestry and the College of Engineering. See the Department of Agricultural Engineering in the College of Engineering for further information.

Geological Engineering (GE)

THE CURRICULUM in Geological Engineering is an interdisciplinary curriculum conducted cooperatively by the departments of Civil Engineering and Geology. See the Department of Civil Engineering in the College of Engineering for further information.

Materials Engineering (MTL)

THE CURRICULUM in Materials Engineering is an interdisciplinary curriculum conducted cooperatively by departments in the College of Engineering and the College of Sciences and Mathematics. See the Department of Mechanical Engineering in the College of Engineering for further information.

College of Agriculture

JAMES E. MARION, Dean R. L. GUTHRIE, Associate Dean RONALD L. SHUMACK, Associate Dean R. A. VOITLE, Associate Dean W. J. ALVERSON JR., Assistant Dean

THE COLLEGE OF AGRICULTURE prepares students for careers in agriculture and related professions. Courses provide a broad foundation in the basic sciences, a general knowledge of the applied sciences, and a reasonable number of cultural subjects. Most of the basic science courses are given in the freshman and sophomore years and serve as a basis for a better understanding of the applied subjects, usually taken in the junior and senior years.

A curriculum is offered in Agricultural Business and Economics, Agricultural Journalism, Agricultural Science, Agronomy and Soils, Animal and Dairy Sciences, Fisheries Management, Hortliculture, Entomology-Integrated Pest Management, Poultry Science and Rural Sociology, Stu-

dents who wish to major in other agricultural fields should consult with the Dean.

The College of Agriculture also furnishes the subject matter training in Agriculture for the curricula of Agricultural Engineering and Agribusiness Education.

Transfer credit will not normally be allowed for any course passed with a grade lower than C at

any other college or university.

Transfer credit for agricultural subjects not considered equivalent to those required in the chosen curriculum may be substituted for elective credit; however, duplication of credit will not be allowed. Equivalency of agricultural subjects will be determined by the Dean's Office, however, students may also obtain transfer credit on the basis of validating examinations. Arrangements for validating examinations must be made with the Dean of Agriculture in the first quarter of enrollment in the College of Agriculture at Auburn and the examinations must be completed before the middle of the second quarter. Transfer credit for courses which are upper-division courses at AU will not be accepted from two-year colleges.

Pre-Veterinary Medicine

It is possible to gain admission to the College of Veterinary Medicine upon completion of the minimum requirements listed below. Students may declare an option upon admission to the College of Agriculture and must declare an option by the end of their freshman year. If students are admitted to the College of Veterinary Medicine after the completion of all the requirements in the first three years of the option, they may obtain a Bachelor of Science degree in the option after completion of the freshman year in the College of Veterinary Medicine.

The minimum requirements for admission to the College of Veterinary Medicine, Aubum University (111 quarter hours), are incorporated in the first three years of the options listed under the following curricula: Animal and Dairy Sciences, Fisheries and Allied Aquacultures, and Poultry Science.

English Composition (p. 39) 10	Mathematics (p. 39) 5	CH 207, 208 10
World History (p. 39)	Philosophy (p. 39) 5	PS 205, 206, 207 12
Literature (p. 39) 10	Social Studies (p. 39)	BI 101, 103
CH 103, 104, 105 15	Fine Arts (p. 39) 3	ADS 3215
Scientific Fladiuse 9		

See also the curriculum in Pre-Veterinary Médicine (PV), College of Sciences and Mathematics.

Dual Degree Program With Engineering

This program gives students the opportunity to receive two baccalaureate degrees - one in agriculture and one in engineering. Although the program was developed primarily for students desiring a combination of a biological sciences program with an engineering program, it does not preclude the consideration of other Agriculture-Engineering combinations.

In general, students will be enrolled in the College of Agriculture for approximately three years and in the College of Engineering for approximately two years. During the first three years, the students should take those mathematics, physics and chemistry courses necessary to allow them to transfer to the College of Engineering. Additionally, before transferring to the College of Engineering, they should have completed approximately three-fourths of the total hours required by the College of Agriculture for the awarding of the degree.

To become dual-degree candidates under this program, students must have grade-point averages which indicate the likelihood of satisfactory completion of College of Engineering degree requirements and a recommendation from the Dean of the College of Agriculture. Recommendation should be sought one quarter before time of expected transfer to the College of Engineering.

It is also possible for qualified students to transfer to the College of Engineering following the junior year with the intent of seeking a master's degree rather than a bachelor's degree in one of the engineering disciplines. Consult the Engineering Dean's Office concerning this option.

Agricultural Business and Economics

The Agricultural Business and Economics curriculum provides broad technical training and a strong liberal arts background to prepare students for careers in agribusiness, the largest industry in the U.S.

While the AEC student may choose a general program of study, selection of one of three career path options can provide more directed specialized training in Agribusiness Management and Marketing, Farm Management or Natural Resources Management. The Agribusiness option emphasizes training in management, marketing/sales and finance. Employment opportunities may involve such areas as management, sales, finance, government, public relations or personnel. The Farm Management option provides training in management and decision-making at the farm level along with the technical aspects of production agriculture. Graduates can pursue careers in the farm sector as owner-operators or managers. Employment opportunities for graduates of the Natural Resources Management option will increase over time as resource scarcity, environmental and rural development issues become more critical. Public institutions which are entrusted with managing and safeguarding our natural resource endowment are primary employers of graduates in this area. Students who forego the career paths and opt for a general program of study can design it to help them reach their goals and aspirations and help ensure a rewarding career. Beyond the identified career areas, graduates of the program complete advanced degrees in the discipline and in business and law schools.

Curriculum in Agricultural Business and Economics (AEC)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
MH 161 An. Geom & Cal. * 5 EH 110 Eng. Comp 5	MH 169 or 162	AEC 200 Ag. Econ. I
HY 121 or 101 (p. 39) 3	U 102 Political Economy 3	HY 123 or 103 (p. 39)3
U 101 Soc., Cult. & Environ 3	HY 122 or 102 (p. 39)3	BI 102 or 103 (p. 39)
	SOPHOMORE YEAR	
AEG 210 Mic. Comp. App. Ag 3	AEC 202 Ag Econ. II	AEC 301 Agr. Marketing4
COM 100 Prof. Comm	AC 212 Accounting II4	RSY 261 Rural Soc
Ag. Elective I **		Core Fine Arts (p. 39)3
AC 211 Accounting I 4	EH 220 Great Books I 5	EH 221 Great Books II
	JUNIOR YEAR	
AEC 304 Ag. Finance 4	AEC 307 Ag. Law 4	AEC 530 Ag. Trade4
MN 301 or DMS 215 or RSY 220 5	PA 219 Bus. Ethics 5	EH 408 B&P Writ5
Career Path Elect. (see advisor)3	Career Path Elect. (see advisor) 6	Career Path Elect. (see advisor), 7
Ag. Elect. III **	AEC 490 Undergrad. Seminar 1	
	SENIOR YEAR	
AEG 501 Farm Mgt 5	AEC 503 Ag. Prices4	AEC 505 Ag. Policy3
AEC 509 Resource Econ 4	Gen. Elect, or ROTC5	AEC 510 Ag. Bus. Mgt 5
Career Path Elect. (see advisor) 3	Career Path Elect. (see advisor) 7	Career Path Elect. (see advisor) 8
Gen. Elect or ROTC3	*****************************	processor and a second a second and a second a second and

TOTAL — 192 QUARTER HOURS

MH 160 may be taken as a general elective.
 One agricultural elective must be selected from each of the following three groupings: (I.) ADS 200 or PH 201; (II.) AN 350-354; and (III.) AY 200, HF 201 or HF 202.

Career Path Options. Undergraduate AEC majors may select one of three career paths, (I. Agribusiness Management and Marketing, II. Farm Management, or III. Natural Resources Economics) or they may opt for a more general degree program by taking courses from all career path listings. Required courses within each career path option are designated by "and required courses for students selecting the general program are identified by ". A list of career path courses and recommended electives is available from the department head or dean.

AEC 399, Agricultural Business and Economics Internship. Up to eight hours' credit is available subject to arrangements with approved firms, businesses or agencies.

Agricultural Engineering

The Agricultural Engineering curriculum provides graduates with engineering skills necessary to serve the nation's largest industry – agriculture. In addition to a strong background in mathematics, physical sciences and basic engineering fundamentals, agricultural engineering students receive training in biological agricultural sciences. Through technical electives in the senior year, one can specialize in one or more areas to include soil and water conservation, power and machinery design, electric power and processing, agricultural structures and environment, food engineering, waste management and agricultural pollution control.

The curriculum is coordinated by the College of Engineering and the College of Agriculture. Students register in Engineering and are assigned an academic advisor in Agricultural Engineering. Beginning students should apply for admission to the College of Engineering and complete the Pre-Agricultural Engineering program. For qualified agricultural students who develop an interest in Agricultural Engineering during their freshman year, an alternate course sequence for completion of the Pre-Agricultural Engineering program under the guidance of an Agricultural Engineering advisor is available in the College of Agriculture.

See the College of Engineering section for admission and degree requirements.

Curriculum in Agricultural Engineering (AN)

	First Quarter		FRESHMAN YEAR Second Quarter		Third Quarter
	7.71.00	1463	162 An. Geom. & Cal	MH	163 An. Geom. & Cal
MH	161 An, Geom. & Cal 5	MH		PS	
CH	103 Fund, Chem. /	CH	104 Fund. Chem. II		220 Gen. Physics I
CH	103LGen. Chem. Lab 1	CH	104LGen. Chem. Lab 1	PS	220LGen. Physics Lab I 1
CSE	120 Intro. Engr. Comp 3	EH	110 Eng. Comp5	PA	102 or 2195
HY	121 or 101 (p. 39) 3	HY	122 or 102 (p. 39)3	HY	123 or 103 (p. 39) 3
ROT	C or Free Elect 1	ROT	C or Free Elect 1	ROT	C or Free Elect 1
			SOPHOMORE YEAR		
MH	264 An. Geom. & Cal	MH	265 Diff. Equations	EE	330 An.&Des. Log. Cir 4
PS	221 Gen. Physics II 3	PS	222 Gen. Physics III	EGF	201 Thermodynamics L 3
PS	221LGen. Physics Lab II 1	PS	222LGen. Physics Lab. III 1		235 Dyamics I
AN	201 Engr. Prin. Bio. Syst 5	EGR		EH	220 Great Books I
EGR		BI	101 Prin. of Biol	Con	Fine Arts (p. 39)
	C or Free Elec 1		C or Free Elec 1		C or Free Elec1
1,01	O DI I 100 Elec Committee	1101			
146	Switzenson 2		JUNIOR YEAR	444	**************************************
CE	310 Hydraulics I	AN	311 Mob. Eq. Des. Funds 4	AN	313 Lnd/Wtr. Con Eng 3
EE	302 Intro. to EE I	AN	315 Proc. Engr. Bio. Syst 5	AN	316 Elec. Syst. in Ag 4
AY	307 Gen. Soils 5	EE	303 Intro. to EE II	AN	317 Env. Con. Biol. Syst 3
EH	221 Great Books II	EH	404 Tech. Writ 5		202 Ag. Econ. II
			101000000100000000000000000000000000000	Ted	h. Elective or ROTC4
			SENIOR YEAR		
AN	403 Struct, Anal, & Des 3	AN	430 Engr. Des. Bio. Systs I 4	AN	530 Egr. Ds. Bio, Sys. II 4
IE	360 Engr. Econ. Anal	AN	414 Irr. Syst. Des		Plant Sci. Elect
AN	418 Wst. Mgt./Util. Systs 4		Plant Sci. Elect 6		h. Elect. or ROTC4
AN	509 Hydr. Cont. Syst 4	U	102 Political Economy	U	103 Individual & Society 3
U	101 Soc., Cult. & Environ 3	-	toronomic content and the content of	-	TOO MATHADA & COURTY THINK D
	to to soon out a control to the	-			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

TOTAL - 207 QUARTER HOURS

Agricultural Journalism

The Agricultural Journalism major provides graduates with training in a wide range of agricultural courses and a strong background in journalism.

Most large agricultural firms, plus many magazine companies, publish agricultural material regularly for the general public and members of their organizations. Editors and writers of such publications need a knowledge of agricultural subject matter and terminology, as well as skill in writing. Likewise, Cooperative Extension Services and Agricultural Research Information Departments hire a wide variety of agricultural journalism graduates.

Curriculum in Agricultural Journalism (AJ)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
U	101 Soc., Cult. & Environ 3	U	102 Political Economy 3	ADS	200 Int. A &D Sci. ## 5
BI	101 Prin. of Biol	BI	107 Env. of Biol	MH	160 Pre-Cal w/Trig 5
EH	110 Eng. Comp 5	PA	102 or 218 or 2195	JM	101 Newspaper Style 3
HY	121 or 101 (p. 39) 3	HY	122 or 102 (p. 39)	HY	123 or 103 (p. 39) 3
Elect	live or ROTC 1		tive or ROTC 1	Elect	ive or ROTC

College of Agriculture

			SOPHOMORE YEAR		
AY JM	103 Fund. Chem	EH CH CH JM Elect	220 Great Books I	EH U PH ENT Elec	221 Great Books II
			JUNIOR YEAR		
HF JM	202 Ag. Econ. II	AEC CSE ADS EH Elect	210 Mic. App. Ag. or 100 Intro. to PC 3 321 or 322 4-5 Adv. Comp. (p. 39) 5 ve or ROTC 3	JM RTF JM Core	322 Feature Writ. 5 338 Broad, News Writ. 5 314 Editing 3 Fine Arts (p. 39) 3
			SENIOR YEAR		and and
JM AY JM	301 Ag. Mkt	JM JM JM	421 Photo Journ.	JM RTF	505 Ag. Policy 3 304 or PR 304 5 3XX Prod. Req. # 5 tives or ROTC 2-3

One of the following must be taken: RTF 334, 335, 336 or 337

Typing is a pre-requisite for JM 221 and 313. Students who do not have the typing ability required should defer ADS 200 until the junior year and elect VED 200, Typewriting I, in its place.

Agricultural Science (AG)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH EH HY Elect	101 Soc., Cult. & Environ 3 160 Pre-Cal. w/Trig 5 110 Eng. Comp 5 121 or 101 (p. 39) 3 vve or ROTC 1	HY CH CH BI Electi	122 or 102 (p. 39) 3 103 Fund. Chem 4 103 Chem. Lab 1 101 Prin. Biol. 5 vye or ROTC 1	HY	104 Fund. Chem
			SOPHOMORE YEAR		
EH BI PS Elect	220 Great Books I 5 102 Plant Biol 5 200 Fund. Physics 5 IVE or ROTC 1	AEC CH BI U Elect	202 Ag. Econ. II		221 Great Books II
			JUNIOR YEAR		
PH COM AEC ADS	201 Poultry Sci	PLP EH	306 Fund. Plant Phys	Ag.	304 Gen. Soils
			SENIOR YEAR		
	400 or 401	Semi	301 Ag. Mkt	AEC	G or PH Elective *

To be selected from ADS 401, 403, 405, 407, 409 or PH 501.

To be selected from AN 350, 351, 352, 353 and 356, *** To be selected from ADS 380, AEC 490, AY 490, HF 490, PH 401 or RSY 490.

Agronomy and Soils (AY)

Courses prepare Agronomy graduates for: (1) the chemical industry, producers of fertilizers, herbicides and other agricultural chemicals; (2) farm-advisory agencies such as soil testing laboratories and other private consultants; (3) public farm-advisory agencies such as the Agricultural Extension Service or the Soil Conservation Service; (4) Research agencies of corporations, U.S. Department of Agriculture, colleges and universities and State Agricultural Experiment Stations; (5) turfgrass industry; (6) farming.

			FRESHMAN YEAR		
First Qua	rter		Second Quarter		Third Quarter
CH 103 Gen. Chem.	4	BI	101 Prin. of Biol5		102 Plant Biol
CH 103L Gen, Chem	. Lab 1	CH	104 Gen. Chem		161 An. Geom. & Cal 5
MH 160 Pre-Cal. w/T	rig 5	CH	104L Gen. Chem. Lab1	ADS	200 Intr. ADS *
			110 Eng. Comp5	Elect	ive or ROTC 1
Elective of BOTC	1	Flect	ive or ROTC 1		

College of Agriculture

	SOPHOMORE YEAR	
CH 207 Org. Chem. 4 CH 207L Org. Chem. Lab 10r CH 203 Org. Chem. 5 AY 312 Prin. Weed Sci. 5 EH 220 Great Books I 5 Elective or ROTC 1	AEC 202 Ag. Econ. II	BY 306 Fund. Pit. Phys. 5 PS 205 Intro. Physics 4 PS 205 Physics Lab 10r PS 200 Fund. Physics 5 EH 221 Great Books II 5 Elective or ROTC 1
	JUNIOR YEAR	
EH 408 or 404 Writing	ZY 300 Genetics 5 Electives 5 HY 103 World History (p. 39) 3 U 103 Individual & Society 3	PLP 309 Plant Path
	SENIOR YEAR	
ENT 502 Econ Entol 5 Core Fine Arts (p. 39) 3 Electives 9	AEC 210 or DMS 216 3 Elective 7 AY 502 Soil Fert 5 AY 490 Sr. Seminar 1	AY 400 Adv. Cp. Prd. **
	TOTAL — 192 QUARTER HOURS	

- Students in Turf will take AV 315.
- " Not required in Turl option.

OPTIONS IN AGRONOMY AND SOILS

PRODUCTION OPTION: Required: AN 350, AY 506, 508, 510, AEC 501, plus 14 hours of electives.

TURF MANAGEMENT OPTION: Required: AN 350, 356, HF 221, 521, AY 506, 516, AC 215, MN 310, plus live hours electives. Seven hours of advanced ROTC can be substituted for required courses.

BUSINESS OPTION: Required: AY 506, 508, AEC 501, 503, AC 215, MN 310, MT 241 or AEC 307, plus live hours of

electives. Seven hours of advanced ROTC can be substituted for required courses.

SCIENCE OPTION: Required: AN 350, CH 207 (instead of CH 203), PS 205 (instead of PS 200), CH 105, 305, plus 23 hours of electives, which must include an additional 10 hours of AY courses.

Animal and Dairy Sciences (ADS)

Two curriculum options are available within the ADS Department to accommodate students with varied career goals and prepare them for leadership careers in livestock and related industries. The Agribusiness/Muscle Foods/Production option offers students flexibility in designing a program by selection of professional electives. Upon completion of this option, graduates should be qualified for career opportunities in livestock production, journalism, extension, livestock feed/nutrition, pharmaceutical industry, sales and merchandising, agricultural finance, governmental and private agencies and industries related to the processing of meat products.

Contemporary animal agriculture is expanding into a "high tech" era which needs graduates with basic science backgrounds to aid in discovery and development of new concepts for animal production. The Pre-Veterinary/Basic-Science (ADPV) option provides students with a foundation in biological and physical science necessary for entry into graduate programs in biotechnology and related disciplines while satisfying prerequisites for veterinary school. Postgraduate studies are necessary for most positions in teaching, extension and research at universities and allied animal industries, as well as areas of biotechnology.

Agribusiness/Muscle Foods/Production Options (ADS)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
ADS 110 Orient. An. Dai. Sc 1	BI 101 Gen. Biol	AEC 202 Ag. Econ. II
ADS 200 Intr. An. Dai. Sc	COM 100 Prof. Comm	BI 103 Ari. Biol5
EH 110 Eng. Comp	PA 102 Intr. Ethics	PS 200 Gen. Physics 5
MH 160 Pre-Cal w/Trig 5	U 101 Soc., Cult. & Environ 3	ROTC or Elect1
ROTC or Elect	ROTC or Elect 1	AND THE PROPERTY OF THE PARTY O
	SOPHOMORE YEAR	
CH 103 Fund. Chem. I	ADS 271 Value Based Analysis 4	AEC 210 Microcomputers
CH 103LGen. Chem. Lab 1	CH 104Fund. Chem. II	CH 203 Org. Chem 5
EH 220 Great Books I 5	CH 104LGen. Chem. Lab 1	HY 103 World Hist. (p. 39) 3
HY 101 World Hist. (p. 39) 3	HY 102 World Hist. (p. 39) 3	ZY 300 Genetics 5
U 102 Political Economy 3	U 103 Individual & Society 3	ROTC or Elect1
ROTC or Elect	ROTC or Elect 1	AND DESCRIPTION OF THE PROPERTY OF THE PERSON OF THE PERSO
	JUNIOR YEAR	
ADS 321 An. Bioch. Nutr 5	ADS 322 Feeds & Feeding 4	ADS 370 Meat Sci
ADS 361 Repro. Phys	ADS 350 An. Breeding4	ADS 380 Under. Sem 1
ZY 251 or 316 5	EH 221 Great Books II	EH 404 Tech. Writing5
Elective1	MU 373 Music Appreciation3	MB 300 Gen. Microbiol 5
	SENIOR YEAR	
ADS 4XX Prod. Requirement * 4	Electives 15	Electives
AEC 510 Ag. Bus. Mgt 5	эвониционопротопротопротопрот	
Electives	***************************************	
	TOTAL ASS CHARTER HOURS	

TOTAL — 192 QUARTER HOURS

One of the following courses must be taken: ADS 401, 403, 405, 407, 409, 470.

Pre-Veterinary Medicine/Basic Science Option (ADPV)

The curriculum listed in the first nine quarters (141 quarter hours) will satisfy the requirements for admission to the College of Veterinary Medicine. Satisfactory completion of the remaining requirements of the ADPV curriculum or completion of one year in the Veterinary Medicine curriculum entitles the student to the B.S. degree in Animal and Dairy Sciences. The following model is one of several combinations of classes qualifying for the B.S. degree*.

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
ADS	110 Or. An. & Dairy Sci 1	BI	101 Gen. Biol	ADS	200 Intr. An. Dairy Sci 5
CH	103 Fund. Chem. I 4	CH	104 Fund, Chem, II	BI	103 An. Biol 5
CH	103L Gen. Chem. Lab 1	CH	104L Gen. Chem. Lab	CH	105 Fund. Chem. III
EH	110 Eng. Comp 5	PA	102 Intr. Ethics 5	CH	105LGen. Chem. Lab1
MH	160 Pre-Cal w/Trig 5	ROTO	or Elect 1	ROT	C or Elect1
ROTO	C or Elect.				war and the state of the state
			SOPHOMORE YEAR		
CH	207 Org. Chem 4	CH	208 Org. Chem	EH	221 Great Books II
CH	207L Org. Chem. Lab 1	CH	208L Org. Chem. Lab	PS	207 Intr Physics III
HY	101 World Hist. (p. 39) 3	EH	220 Great Books 1 5	PS	207L Physics Lab1
MU	373 Music Appr 3	PS	206 Intr. Physics II 4	ZY	300 Genetics 5
PS	205 Intr. Physics I 4	PS	206L Physics Lab1		ROTC or Elect1
PS	205L Physics Lab 1		ROTC or Elect1		**************************************
ROT	C or Elect 1		vanious processors and a second contraction.		
			JUNIOR YEAR		
ADS	271 Value Based Analysis 4	ADS	350 An. Breed 4	ADS	370 Meat Sci 4
ADS	321 An. Bio. Nutr 5	ADS	322 Feeds & Feeding 4	ADS	
EH	404 Tech. Writing 5	HY	102 World Hist. (p. 39) 3	ZY	251 or 3165
U	101 Soc., Cult. & Environ 3	U	102 Political Economy 3	HY	103 World Hist. (p. 39) 3
		Electi	V6	U	103 Individual & Society 3
			SENIOR YEAR		
ADS	4XX Prod. Require: 4	COM	100 Prof. Comm3	AEC	210 Microcomp 3
ADS	361 Reprod. Phys	Elect	ves 11	MB	300 Gen. Microbiol 5
AEC	202 Ag. Econ. II		Attended to a supply of the same of the sa	Elec	tives8
Elect	ives				зартновинованногоноположить:
			A STREET OF STREET AND STREET, NO. 10. OR ADDRESS.		

TOTAL - 192 QUARTER HOURS

Entomology - Integrated Pest Management (ENTI)

The Entomology - Integrated Pest Management curriculum in the Department of Entomology is designed to provide the student with a broad base of training in the pest sciences. This option will prepare the student for employment in many areas of animal and plant agriculture. It also can be used as the basis for advanced study in such fields as entomology, plant pathology, nematology and weed science.

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
U.	101 Soc., Cult. & Environ 3	U	102 Political Economy	U	103 Individual & Society 3
BI	101 Gen. Biol	BI	102 Plant Biol5	BI	103 An. Biol5
CH	103 Fund. Chem. I 4	CH	104 Fund. Chem. II	EH	110 Eng. Comp5
CH	103L Gen. Chem. Lab 1	CH	104L Gen. Chem. Lab 1	HY	101 World History (p. 39) 3
Core	Fine Art (p. 39) 3	MH	161 An. Geom. & Cal. 1 5	Elect	tive or ROTC1
	live or ROTC 1	Electi	ve or ROTC 1		(Respectational company) and on the company of the
			SOPHOMORE YEAR		
EH	220 Great Books I 5	EH	221 Great Books II	ENT	304 Gen. Entomology 5
HY	102 World History (p. 39) 3	CH	207 Org. Chem4	CH	208 Org. Chem
PS	200 Found. Physics 5	CH	207L Org. Chem. Lab 1	CH	208L Org. Chem. Lab
Elect	tive or ROTC 1	HY	103 World History (p. 39) 3	AY	304 Gen. Soils5
	pagina a paga paga paga paga paga paga paga	Elect	ive or ROTC1	Elec	tive or ROTC1
			JUNIOR YEAR		
Core	Philosophy (p. 39)	ZY	300 Genetics5	MB	300 Microbiol 5
AY	312 Prin. Weed Sci 5	ZY	303 Prin. Evol. & Syst	ENT	
ZY	306 Prin. Ecol 5	ZY	251 Physiology5	EH	404 Tech. Writing (p. 39) 5
			minimum management of the community of t	CON	4 100 Prof. Comm
			SENIOR YEAR		
AEC	210 Micro. in Aq	AY	200 Crop Prod 5	PLP	309 Gen. Plant Path
ENT		ENT	503 Toxicology5	ENT	405 App. Entomol5
DMS	215 Intr. Biol. Stat 5	ENT	404 Ins. Aft. Humans5	AEC	200 Ag. Econ. I
Elec	tive 2		***************************************	Elec	tive2
		TO	TAL - 102 OHARTER HOURS		

TOTAL - 192 QUARTER HOURS

Must complete ADS 200 and 321 and four of the following seven courses; ADS 271, 322, 350, 361, 370, 520 and ADS 4XX (where ADS 4XX is one of the following production courses: ADS 401, 403, 405, 407, 409, 470).

[&]quot; If the student is not prepared for MH 161, MH 160 may be taken for elective credit.

Fisheries and Allied Aquacultures

Curricula in Fisheries and Allied Aquacultures have options in Science and Production to that prepare students for careers in sport fish management, aquatic ecology and aquaculture. The Pre-Vet Option meets the admission requirements for the AU College of Veterinary Medicine.

Curriculum in Fisheries Management (FAA)

SCIENCE OPTION FRESHMAN YEAR

			THESTIMAN TENT		and the same of th
	First Quarter		Second Quarter		Third Quarter
BI	101 Pnn. Biol 5	BI	102 Plant Biol5	BI	103 An. Biol 5
CH	103 Fund, Chem. 1 4	MH	161 An. Geom. & Cal	PS	205 Intr. Phys./Lab
CH	103L Gen. Chem. Lab 1	CH	104 Fund. Chem. II	EH	110 Eng. Comp5
	/e or ROTC	CH	104L Gen. Chem. Lab 1	Elec	live or ROTC1
Liouni	***************************************	Electi	ve or ROTC1		***************************************
			SOPHOMORE YEAR		
Core I	History (p. 39)	Core	History (p. 39) 3		History (p. 39)
EH	220 Great Books I 5	EH	221 Great Books II 5		4 100 Prof. Comm 3
PS	206 Intr. Phys./Lab 5	CH	207 Org. Chem/Lab 5		208 Org. Chem. Lab 5
Election	ve or ROTC 3	Elect	ve or ROTC		Fine Arts (p. 39)3
				Elec	tive or ROTC2
			JUNIOR YEAR		Action to the second se
FAA	538 Gen. Ichthy 5	FAA	537/9 Fish Biol or	FAA	401 Limnology5
ZY	251 Physiol 5	FAA	511 Prin. Aquacult5	ENT	
AEC	202 Ag. Econ. II	ZY	306 Prin. Ecology5	U	103 Individual & Society 3
U	101 Soc., Cult. & Environ 3	AEC	210 Microcomp. App	PE	Swimming2
	ALIPONOS HARIS-DUQUEMONO ANTON	U	102 Political Economy3		
			SENIOR YEAR		
FAA	393 Seminar 1	FAA	454 Halch Man. I	DMS	S 501 Biostat: 5
FAA	423 Water Qual	MB	300 Gen. Micro 5	FAA	455 Hatch Man. II 5
ZY	300 Genetics5	ZY	401 Invert. Zool5		Philosophy (p. 39) 5
EH	404 Tech. Writ	-	ve1		tive1
En	404 rech. Will.		TAL — 192 QUARTER HOURS		
		F	PRODUCTION OPTION FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
BI	101 Prin. Biol	BI	102 Plant Biol5	BI	103 An. Biol5
CH	103 Fund Chem I 4	EH	110 Eng. Comp 5	CH	203 Org. Chem 5
CH	103L Gen, Chem, Lab 1	CH	104 Fund, Chem. II	MH	160 Pre-Cal. w/Trig 5
	ve or ROTC	CH	104L Gen. Chem. Lab	Elec	ctive or ROTC1
Liber			tive or ROTC 1		
			SOPHOMORE YEAR		
Core	History (p. 39)3	Core	History (p. 39)		e History (p. 39)3
EH.	220 Great Books I 5	EH	221 Great Books II		M 100 Prof. Com 3
MB	300 Gen. Microbiol 5	AY	304 Gen. Soils5		200 Fund. Physics 5
Elect	ve or ROTC	Elec	tive or ROTC3		e Fine Arts (p. 39)
	The second control of		page on the Hard Hard Street Street Street	Ele	ctive or ROTC2
			JUNIOR YEAR		
FAA	538 Gen. lchthy 5	FAA	537/9 Fish Biol. Lab or	FAA	4 401 Limnology 5
ADS	321 An. Biochem 5	FAA	511 Prin. Aquacult 5	EH	404 Tech. Writ 5
AEC	202 Ag. Econ. II 5	ZY	306 Prin. Ecol 5	U	103 Individual & Society 3
U	101 Soc., Cult. & Environ 3	AEC	210 Microcomp. App	PE	Swimming2
	HAVE THE PROPERTY OF THE PARTY	U	102 Political Economy 3		
			SENIOR YEAR		
FAA	393 Seminar 1	FAA	454 Hatch Man. I5		A 402 Fish Hlth. Man 5
FAA		AN	352 Tract. Engr. Tech 4		A 455 Hatch Man. II5
	501 Farm Man5	Elec	tives 7	Co	re Philosophy (p. 39) 5
Flord					энономономонополотополотестина

College of Agriculture

FISHERIES MANAGEMENT (FPV) - PRE-VET OPTION

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
BI 101 Prin. Biol. 5 CH 103 Fund. Chem. I 4 CH 103L.Gen. Chem. Lab 1 Elective or ROTC 6	BI 102 Plant Biol	BI 103 An. Biol
	SOPHOMORE YEAR	
Core History (p. 39) 3 EH 220 Great Books 1 5 PS 206 Intr. Phys. ∆ab 5 Elective or ROTC 2	Core History (p. 39) 3 EH 221 Great Books II 5 CH 207 Org. Chem/Lab 5 PS 207 Intr. Physics/Lab 5	Core History (p. 39) 3 COM 100 Prof. Comm. 3 CH 208 Org. Chem Lab 5 Core Fine Arts (p. 39) 3 Elective or ROTC 1
	JUNIOR YEAR	
FAA 538 Gen Ichthy 5 ADS 321 An Biochem 5 FAA 423 Water Quality 5 U 101 Soc., Cult, & Environ 3	FAA 537/9 Fish Biol	FAA 401 Limnology
	SENIOR YEAR	
FAA 393 Seminar	FAA 454 Hatch Man. 1	DMS 501 Biostat

Horticulture (HF)

Courses prepare Horticulture graduates for the following careers: nursery manager, landscape designer, landscape installer, landscape maintenance, interior landscaping, plant propagator, city or state horticulturist, extension horticulturist, horticulture writer, horticulture teacher, florist shop manager, greenhouse manager, vegetable producer, orchard manager, chemical company representative, seed company representative or retail garden center manager.

Three undergraduate options are available to students in Horticulture: Landscape Horticulture, Ornamental Production and Fruit and Vegetable Crop Production. Horticulture also offers a master's degree which leads to professional positions in teaching, research and extension.

Ornamental Production Option

FRESHMAN YEAR		
Second Quarter	Third Quarter	
BI 102 Plant Biol	MH 160 Pre-Cal. w/Trig 5	
	CH 104 Fund. Chem. II	
	CH 104L Gen. Chem. Lab	
	HY 102 or 122 (p. 39)	
	U 103 Individual & Society 3	
Elective or ROTC 1	Elective or ROTC1	
SOPHOMORE YEAR		
Core Philosophy (p. 39)	HF 224 Plant Prop5	
	EH 221 Great Books II5	
	AEC 202 Ag. Econ. II	

JUNIOR YEAR		
EH 408 B&P Writ5	AY 307 Gen. Soils 5	
BY 306 Plant Physiol5	PLP 309 Plant Pathol5	
	Electives5	
SENIOR YEAR		
5 HF 523 Nurs. Mgt5	HF 522 Flor. Crop Prod 5	
	HF 410 Herb, Plants5	
**************************************	Electives5	
5		
TOTAL — 192 QUARTER HOURS		
WE STATE OF	Second Quarter 5	

Fruit and Vegetable Option

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
BI	101 Prin. Biol 5	BI	102 Plant Biol5	MH	160 Pre-Cal. w/Trig 5
EH	110 Eng. Comp 5	CH	103 Fund. Chem. I	CH	104 Fund. Chem. II
HE	101 Intr. Hort 3	CH	103L.Gen. Chem. Lab 1	CH	104L Gen. Chem. Lah
11	101 Soc., Cult. & Environ 3	HY	101 or 121 (p. 39)3	HY	102 or 122 (p. 39) 3
Elec	tive or ROTC1	U	102 Political Economy	U	103 Individual & Society 3
		Electi	ve or ROTC 1	Elect	ive or ROTC1
			SOPHOMORE YEAR		
HY	103 or 123 (p. 39)	Core	Philosophy (p. 39)	HF	221 Lndscp. Gardenor
CH	207 Org. Chem 4	EH	220 Great Books I5	HF	224 Plant Prop
CH	207L.Org. Chem. Lab 1 or	JM	315 Basic Journ	EH.	221 Great Books II
CH	203 Org. Chem 5	Core	Fine Arts (p. 39)	AEC	202 Ag. Econ. II
AEC					моченовноможноможном
HE	201 Orch. Mgt		- Sarahannan annon managaran		: HOOF OF THE PARTY OF THE PART
Ele	tive or ROTC 1				
			JUNIOR YEAR		
HE	501 Comm. Veg. Crops 5	AY	304 Gen. Soils5	PLP	309 Plant Path 5
CO	M 100 Prof. Comm 3	BY	306 Fund. Plant. Phys 5	ZY	300 Genetics
EH	408 B&P Writ 5	AEC	301 Ag. Mkting4	HF	501 or 504 or 505 or 506 5
Ele	ctives or ROTC 3				······································
			SENIOR YEAR		
HE	390 Seminar 1	HF	501 or 504 or 505 or 506 5	HF	501 or 504 or 505 or 506 5
AE	5 501 Farm Mgt 5		Electives or ROTC 6		Electives or ROTC6
AY		AN	350 Soil & Water Tech 4	ENT	502 Econ. Entomol 5
	Electives or ROTC				

Landscape Horticulture Option

TOTAL - 192 QUARTER HOURS

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
BI	101 Prin. Biol	BI	102 Plant Biol5	MH	160 Pre-Cal. w/Trig 5
EH	110 Eng. Comp 5	CH	103 Fund. Chem. 1	CH	104 Fund. Chem. II 4
HE	101 Intr. Hort	CH	103L Gen. Chem. Lab 1	CH	104L Gen. Chem. Lab 1
11	101 Soc., Cult. & Environ 3	HY	101 or 121 (p. 39)	HY	102 or 122 (p. 39) 3
~	ve or ROTC1	U	102 Political Economy3	U	103 Individual & Society 3
E-1001		Elect	ive or ROTC 1	Elec	tive or ROTC1
			SOPHOMORE YEAR		
HY	103 or 123 3	COM	100 Prof. Comm	HF	224 Plant Prop
BY	306 Plant Phys 5	Core	Philosophy (p. 39)5	AC	215 Fund. G&C Acct
AEC	210 Micro. App. in Aq 3	EH	220 Great Books 1 5	EH	221 Great Books II
		tive or ROTC1			
	ive or ROTC 1	Core	Fine Arts (p. 39)		201010000000000000000000000000000000000
			JUNIOR YEAR		
HF	222 Arboniculture 5	PLP	309 Plant Path	AY	307 Gen. Soils5
HE	412 Int. Plntscping 3	HF	223 Evergreen S&V	HF	321 Small T, S & V
EH	408 B&P Writ 5	Elect	ives or ROTC	Elec	ctives or ROTC5
	ives of ROTC 2				
			SENIOR YEAR		
ENT	502 Econ. Entomol 5	HF	521 Lndscp. B, E & M 5		410 Herb, Plants
AY	315 Turlgrass Mgt,		Elec. * 5		L Elec. *
HF	427 Intermed. Des 5	Elect	ives or ROTC 5	Elec	ctives or ROTC5
HF	390 Seminar 1				пониваеминини пити политить.

TOTAL - 192 QUARTER HOURS

Poultry Science (PH)

Rapid growth of the poultry industry in Alabama and the U.S. has resulted in a demand for poultry science graduates that exceeds the current supply. These graduates must be qualified to fill positions within all segments of the poultry industry including live production, processing, quality control, product development, technical service, marketing and sales. Excellent opportunities exist for graduates qualified to fill technical positions in the poultry related sciences such as physiology, nutrition, microbiology, pathology and food science. An active internship program and numerous scholarships awarded by the department and the Alabama Poultry and Egg Association assist Poultry Science majors in progressing towards their career objectives.

Two Poultry Science options are available: The general option offers flexibility in designing a curriculum to prepare students for careers in the poultry industry. The pre-veterinary medicine option meets the admission requirements for the AU College of Veterinary Medicine.

Students are required to take two of the following: AN 356, LA 342, HF 415, 428, 523

General Poultry Science Option

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
MH 160 Pre-Cal w/Trig 5	BI 103 An. Biol 5	HY 101 or 121 (p. 39)
BI 101 Gen. Biol 5	EH 110 Eng. Comp5	CH 104 Fund. Chem. II
PH 201 Poultry Sci4	CH 103 Fund, Chem. 14	
Gen. Elective 1	CH 103L Chem. Lab	Gen. Elective *4
	SOPHOMORE YEAR	
CH 203 Org. Chem 5	HY 102 or 122 (p. 39)3	HY 103 or 123 (p. 39)
AEC 210 Microcomp. in Ag	PS 200 Found. Physics5	
Core Philosophy (p. 39) 5	EH 220 Great Books 15	EH 221 Great Books II
U 101 Soc., Cult. & Environ 3	U 102 Political Economy	Gen. Elective *
	JUNIOR YEAR	
ADS 321 An. Bioch. & Nutr 5	ZY 300 Genetics5	PH 511 Proc. & Mkt. ** 4
EH 404 or 408 5	PH 503 Com. Poultry Prod. " 5	PH 506 Poul. Breed. Fert. ** 5
PH 401 JrSr. Seminar 1	COM 141 Group Prob. Solv5	Gen. Elective *2
Prof. Elective (see advisor)	Gen. Elective * 1	Prof. Electives (see advisor) 4
	SENIOR YEAR	
AEC 510 Ag. Bus. Mgt 5	MB 300 Gen. Microbiology	PH 508 Poul. Dis. Par. ** 4
PH 505 Poul Feed. **	Core Fine Arts (p. 39)3	PH 515 Avian Repro. Phy. ** 4
ZY 316 or 251 Physiology 5	Prof. Electives (see advisor)9	Prof. Electives (see advisor) 8

TOTAL — 192 QUARTER HOURS

A minimum of 12 credit hours of general electives must be taken.

** Upper-level Poultry Science courses are generally taught every other year. It is the student's responsibility to take these courses when they are offered.

Poultry Science Pre-Veterinary Medicine Option (PH-PV)

The curriculum listed for the first nine quarters (144 quarter hours) satisfies minimum requirements for admission to the College of Veterinary Medicine. Completion of the remaining requirements of the Poultry Science curriculum or completion of one year in the Veterinary Medicine curriculum entitles the student to the B.S. degree in Poultry Science. Seventeen hours of general electives will be selected in consultation with the student's advisor. To meet the requirements for the B.S. degree in Poultry Science in four years, at least 13 hours of PH electives must be completed by the end of the junior year.

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
HY	101 or 121 (p. 39) 3	HY	102 or 122 (p. 39)3	HY	103 or 123 (p. 39)
CH	103 Fund, Chem. I	MH	160 Pre-Cal. w/Trig 5	CH	105 Fund. Chem. III
CH	103L Chem. Lab	CH	104 Fund, Chem. II	CH	105L Chem, Lab 1
PH	201 Poul. Sd 4	CH	104L Chem. Lab 1	EH	110 Eng. Comp5
U	101 Soc., Cult. & Environ 3	U	102 Polit Econ	U	103 Individual & Society 3
ROT	C or Gen. Elec 1	ROTO	or Gen. Elec 1	ROT	C or Gen. Elec1
			SOPHOMORE YEAR		
EH	220 Great Books I 5	BI	101 Gen, Biol5	BI	103 An. Biol
CH	207 Org. Chem 4	CH	208 Org. Chem 4	EH	221 Great Books II
CH	207L Org.Chem. Lab 1	CH	208L Org. Chem. Lab 1	PS	207 Intr. Phys. III
PS	205 Intr. Phys. I	PS	206 Intr. Phys. II	PS	207L Intr. Phys. Lab
PS	205L Physics Lab1	PS	206L Physics Lab 1	ROT	C or PH Elective * 1
	C or Gen. Elec 1	ROTO	or Gen. Elec1	PH	Elective *1
			JUNIOR YEAR		
ZY	316 Phys. Dom. An 5	EH	404 or 408 5	ZY	300 Genetics5
Core	Philosophy (p. 39) 5	ADS	321 An. Bioch. Nutr	ADS	
	Fine Arts (p. 39) 3	PH	Elective * 6	MB	300 Microbiology5
PH	Elective *		MANAGEMENT OF THE PROPERTY OF	PH	Elective *2
			SENIOR YEAR		
CON	1 100 Prof. Com 3	AEC	202 Ag. Econ. II	AEC	510 Ag. Bus. Mgt5
AEC	210 Micro. in Ag 3	COM	141 Group Prob. Solv	PH	Elective *6
	Elective 5	PH	Elective * 6	Gen	Elective5
PH	Elective * 5				
			A CONTRACTOR OF THE PARTY OF TH		

TOTAL - 192 QUARTER HOURS

PH electives must be selected from the following: PH 401, 503, 505, 506, 508, 511, 515.

Rural Sociology

The Rural Sociology curriculum emphasizes the application of scientific knowledge to human problems. Courses provide fundamental preparation in the humanities, mathematics and the sciences, as well as in the basics of production agriculture. The curriculum is comprised of a major in rural sociology with exposure to agricultural business and production in rural areas.

Human services occupations represent an area of expanding employment opportunity. Graduates are qualified for work involving administration of state and federal programs designed to serve the elderly, disabled, poor, youth, unemployed and others. Employment opportunities exist in regional and urban planning units, agricultural agencies, agribusiness firms and other organizations desiring employees with human relations as well as agricultural and economic skills.

See lists of suggested general and agricultural elective courses. ROTC courses may be substituted for general electives up to a total of 12 credit hours. Students wishing to enroll in Agriculture courses requiring the prerequisite CH 104 or ADS 320 should take CH 103 and 104 as general electives.

Curriculum in Rural Sociology (RSY)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp	Core Philosophy (p. 39)	ADS 200 Intr. An. & D. Sc
EH 220 Great Books I 5 AEC 200 Ag. Econ. I 5 RSY 261 Intr. Rur. Soc. 3 AEC 210 Microcomp. in Ag. 3	EH 221 Great Books II 5 AEC 202 Ag. Econ. II 5 RSY 362 Comm. Org. 4 COM 100 Prof. Comm. 3	Core Fine Arts (p. 39) 3 AY 200 or 401 5 SOC 200 Statistics or DMS 215 Intr. Bio. Stat. 5 Gen. Elective 3
	JUNIOR YEAR	
SOC 204 Soc. Behav. 5 RSY 370 Mthds. Soc. Res. 5 Gen. Elective 3 Ag. Elective 3	AEC 301 Ag. Mkt. 4 EH 408 B&P Writ. 5 Gen. Elective 4 Ag. Elective 3	AEC 304 Ag. Finance
	SENIOR YEAR	
RSY 564 Soc. Com. Dev. 5 SOC 502 Soc. Theory 5 Gen. Elective 6	RSY 561 Rural Soc. 5 AEC 510 or 501 5 Ag. Elective 3 Gen. Elective 3	RSY 565 Soc. Nat. R&E

TOTAL - 192 QUARTER HOURS

Students not qualifying for MH 161 will take MH 160 for elective credit.

School of Architecture

J. THOMAS REGAN, Dean R. SYDNEY SPAIN, Associate Dean BETTY J. FENDLEY, Assistant Dean

THE SCHOOL OF ARCHITECTURE offers undergraduate programs in the academic areas of Architecture, Building Science, Industrial Design, Interior Design and Landscape Architecture Graduate programs are offered in Building Science, Community Planning and Industrial Design.

Any student in the School of Architecture, during the third year of study, may apply to be a degree candidate for the Bachelor of Science in Environmental Design. This four-year, non-accredited degree is available at the recommendation of the student's department head, and with the approval of the dean. Each student will follow an approved plan of specialized study during the fourth year. If a Bachelor of Science in Environmental Design degree is received, a graduate must apply for re-admission to be a candidate for any other degree offered by the School of Architecture. Some candidates for Master's programs may complete the requirements for the Bachelor of Science in Environmental Design, as a second baccalaureate degree, at the completion of undergraduate studies as qualification requirements for entry to graduate studies.

The School of Architecture maintains the right to limit enrollment in all programs and may retain student work for exhibition or for records and accreditation purposes.

Department of Architecture

Entering Freshmen – Eligibility for admission to Architecture, Interior Design, and Landscape Architecture is determined by the Admissions Office on the basis of the candidate's test scores and previous academic record. In addition to these criteria, admission to these programs will be made on the basis of departmental ranking and according to enrollment limitations.

Transfer Students from non-architectural programs are required to begin the design sequence with first year. Transfer students from accredited schools of Architecture will be required to present a portfolio of their work to the Design Review Committee for evaluation. Assuming acceptance, the Committee will determine the level of placement in the design sequence.

Summer Design Program – Summer Option, which consists of all first-yeardesign courses, is offered for Auburn University students or transfer students who have completed one year of university work. All students must meet departmental entrance criteria and be within the enrollment limitations of the department.

Foreign Study Program – A one-quarter foreign study opportunity is offered to qualified students in all programs in the third- and fourth-year levels. Students follow an organized itinerary of travel and study during the Spring Quarter.

Rural Studies Center – The department maintains a remote rural studio. This program focuses on the issues and dilemmas in the rural South and offers qualified students the opportunity to work hands-on in helping communities and individuals meet their most immediate needs for shelter and an improved quality of life.

Urban Studies Center – The department maintains an urban studies center in downtown Birmingham. This location offers students in all programs a unique opportunity for the study of urban design issues in context with a vital regional center. Students live in Birmingham for the quarter and work closely with specialized faculty, professional practitioners, as well as community residents and leaders. All students in the department are expected to spend one quarter in Birmingham during their fourth year.

Professional Experience Practicum – Professional experience in architecture, interior design, landscape architecture, engineering, construction or related fields is recommended prior to entry into the lifth year of the architecture or landscape architecture curriculum, or the fourth year of the interior design curriculum. For students in five-year programs the equivalent of two summers is recommended. Participation in the Rural Studies Program satisfies one summer of this recommended experience.

Academic Standards and Policies - All design studio courses must be taken in sequence and in observance of the prerequisite courses as stated. Any student receiving a grade below C in AR 101, 102, 103 or AR 201, 202, 203, will be reviewed by the Design Review Committee at the end of the year for approval to continue in the design sequence. Similarly, a student with a majority of grades at the C level may be reviewed by the Committee. All students completing the second year design sequence will be reviewed for continuance into the third year design sequence.

In the event two grades of **D** are received in any of the upper level design sequences or in the event a grade of **F** is assigned (300-400- or 500-level design courses), a review is required for continuance in the program including the option of being required to repeat the entire design sequence for that year, or to withdraw from the program.

To proceed to the beginning sequence of a design studio at third-, fourth- or fifth-year levels, the student must have completed all required courses prior to that level or have the approval of the Design Review Committee. Enrollment in 300- and 400-level BSC courses will be limited to those with an overall grade-point average of 2.3 or above and third-year standing in design. Each student will be assigned a faculty advisor who will assist in the coordination of course requirements and registration.

Department of Building Science

Entering Freshmen who meet the general admission requirements of Auburn University will be admitted to the Pre-Building Science program.

Transfer Students from other Alabama institutions must have a minimum grade-point average of 2.8 and will be accepted on a space available basis as determined by the department head.

Academic Standards and Policies — To be classified as 03 BSC, the student must have completed all coursework shown in the first two years of the model curriculum, have a 2.3 cumulative grade-point average on all courses attempted at Auburn University, and have a minimum of 96 quarter hours. Students in the Department of Architecture will be admitted in 300- and 400-level BSC courses upon completion of second-year design. Students will be admitted on a space available basis.

Department of Industrial Design

Entering Freshmen who meet the general admission requirements of Aubum University will be admitted to the Pre-Industrial Design Program.

Transfer Students from other institutions must meet the university admission requirements. Students transferring from other design disciplines will be required to present examples of their work to determine studio placement. Internal transfer students should contact the department head to determine eligibility.

Summer Design Program — Transfer students who have completed courses in the model curriculum for the freshman year may qualify for the Summer Design Program. This program allows students to complete the first year Industrial Design Studio requirements. After completion, students may enter the sophomore design studio sequence in the fall quarter. Contact the department head for more information.

Academic Standards and Policies — Design courses must be taken in sequence and may not be taken simultaneously with prerequisites. All courses in the freshman year must be completed before entering the sophomore year of study. A grade of C or higher must be made in studio courses. Grades below C in studio courses 110 through 412 must be repeated. Any student with two grades at the C level or below in IND 110, 111, 112 or 210, 211, 212 may be reviewed by the Design Review Committee for approval to continue in the design sequence. Admission to the Industrial Design curriculum in the second and third years requires a 2.5 cumulative grade-point average. The department maintains the right to select the most highly qualified students for admission to and continuation in the program and to retain original work accomplished as part of course instruction.

Architecture

The Bachelor of Architecture degree is awarded upon the completion of the fifth year of study. Qualified students may elect to pursue a concurrent Master of Community Planning degree or a Bachelor of Science in Building Construction degree under a special dual degree program. The Cooperative Education program is available to students after the second year of studio. Active participation in the Intern Development Program (IDP) is encouraged after completion of the third year in the curriculum. IDP is a prerequisite to licensing in the State of Alabama.

Most states require that an individual intending to become an architect hold an accredited degree. Two types of degrees are accredited by the National Architectural Accrediting Board: (1) The Bachelor of Architecture, which requires a minimum of five years of study, and (2) The Master of Architecture, which requires a minimum of three years of study following an unrelated bachelor's degree or two years following a related preprofessional bachelor's degree. These professional degrees are structured to educate those who aspire to registration/licensure as architects.

The four-year, preprofessional degree, where offered, is not accredited by NAAB. The preprofessional degree is useful for those wishing a foundation in the field of architecture, as preparation for either continued education in a professional degree program or for employment options in related areas.

The five-year Bachelor of Architecture degree is accredited by the National Architectural Accrediting Board. The four-year preprofessional Bachelor of Science in Environmental Design is not an accredited degree.

Auburn is a member of the Association of Collegiate Schools of Architecture.

Students are encouraged to work at an architect's office, a construction site or other approved professional endeavor prior to their fourth year.

Curriculum in Architecture (AR)

			FIRST YEAR		
	First Quarter		Second Quarter		Third Quarter
AR	101 Basic Design 5	AR	102 Basic Design5	AR	103 Basic Design5
AR	105 Freehand Drawing 1	AR	106 Proj. Geo. & Orth	AR	107 Axo./Obl.Proj 1
MH	161 An. Geom. & Cal 5	EH	110 Eng. Comp	HY	103 World History 3
HY	101 World History 3	HY	102 World History 3	U	103 Indiv. & Soc 3
0	101 Soc., Cult. & Environ 3	U	102 Political Economy 3	PS	205 Physics 4
-			samming water commencer and	PS	205L Physics Lab 1
			SECOND YEAR		
AR	201 Arch. Des 5	AR	202 Arch. Des5	AR	203 Arch. Des 5
AR	205 Perspective 1	AR	206 Color Media & Theory 1	AR	207 Analytique1
PS	206 Physics 4	PA	101 Philosophy5	AR	230 Mtl. & Mth. of Cons. , 3
PS	206L Physics Lab 1	EH	221 Great Books II	AR	270 Hist. & Theory Arch 5
EH	220 Great Books I 5		A TOTAL PROPERTY OF THE PARTY O	Core	Fine Arts (p. 39)
			THIRD YEAR		
AR	301 Arch. Des 6	AR	302 Arch. Des 6	AR	303 Arch. Des6
AR	371 Hist. & Theory Arch 3	AR	372 Hist. & Theory Arch 5	BSC	
AR	231 Syst. & Const. Tech 3	BSC	311 Str. of Mtls5	BSC	
BSC	211 Mech. of Struct 5		Commission	CP	576 His. & Theo. Urb. Form 3
			FOURTH YEAR		
AR	401 Arch. Design 6	AR	402 Arch. Design	AR	403 Arch. Design 6
BSC	331 Env. Control II 5	EH	400 Adv. Comp5	AR	571 Prof. Pract. "
BSC	315 Appl. Struct 5	AR	WR Seminar 3	CP	575 Urb. Pln. & Design 3
			Elective 3	AR	Seminar3
			FIFTH YEAR		
AR	501 Arch. Design	AR	502 Arch Design6	AR	503 Arch. Design 8
AR	597 WR Intro. Research 3	AR	598 Thes. Res2	AR	599 Thesis Res 1
AR	Seminar 3	AR	Seminar 3	AR	Seminar3
Prof.	Grp. Elect. *	Prof.	Grp. Elect. '		tive3
AR	430 Fld. Proj. Elec	AR	435 Dessein 3		tive
S	UMMER DESIGN PROGRAM*		BIRMINGHAM PROGRAM	EUR	OPEAN STUDIES PROGRAM
					RURAL STUDIO
AR	101-102-103 Basic Des 5-5-5	AR	400 Arch. Des6		D/AR Arch. Des6
AR	105 Freehand Drawing 1	CP	575 UD Mth. & Prc		D/AR Dessein3
AR	106 Proj. Geo. & Orth 1	AR	571 Prof. Pract3		D/AR Seminar3
AR	107 Axo./Obl.Proj1	AR	Seminar 3	LAVI	D/AR Elective
		-	OUT OF OF ADDUCTEDTURE		

BACHELOR OF ARCHITECTURE

TOTAL - 251 QUARTER HOURS

 Professional Group Elective, such as Bus. Law, CAD, Programming, Lighting, Management, Estimating, Economics, Community Planning, etc.

** To be taken in Birmingham.

Electives can be used for ROTC or combined into one 3-hour seminar and one 3-hour elective. One seminar will be chosen from four of the following: AR 551, 552, 553, 556, 557 and 558.

Interior Design

The four-year curriculum accredited by the Foundation for Interior Design Education and Research and the National Association of Schools of Art and Design, leads to the Bachelor of Interior Design Professional degree. Summer employment with a professional interior designer to gain experience is recommended between the third and fourth year of study.

Curriculum in Interior Design (ID)

			FIRST YEAR		
	First Quarter		Second Quarter		Third Quarter
AR	101 Basic Design 5	AR	102 Basic Design5	AR	103 Basic Design5
AR	105 Freehand Drawing 1	AR	106 Proj. Geo. & Orth 1	AR	107 Axo./Obl.Proj 1
MH	161 An. Geom. & Cal 5	EH	110 Eng. Comp5	SM	101 Con. of Sci 5
HY	101 World History 3	HY.	102 World History3	HY	103 World History 3
U	101 Soc., Cult. & Environ 3		102 Political Economy3	U	103 Indiv. & Soc

School of Architecture

			SECOND YEAR		
AR	201 Arch. Design	AR	202 Arch. Design	ID	203 Intenor Design 5
AR	205 Perspective 1	AR	206 Color Media & Theory 1	AFI	207 Analytique
EH	220 Great Books I 5	EH	221 Great Books II	AR	270 Hist. & Theory of AR 5
	Science Elective (p. 39) 5	PA	102 Intro. to Ethics5	AR	230 Mtl. & Mth. of Const 3 Core Fine Arts (p. 39) 3
			THIRD YEAR		
ID	301 Interior Design 6	ID	302 Interior Design 6	ID	303 Interior Design
ID	365 His. & Theo. of ID 3	ID	366 His. & Theo. of ID	ID	367 WR 20th Cen. ID
ID.	215 Elements of ID	ID	216 Elements of (D 3	ID	217 Elements of ID3
AR		AR	372 His. & Theo. of AR5	Elec	tive *
AR	435 Dessein 3				
est.	400 00000111111111111111111111111111111		FOURTH YEAR		
	No. of Contract Contr	100		100	400 let Decigo Thoras
1D	401 Interior Design	ID	402 Interior Design 6	ID	403 Int. Design Thesis 7
ID.	441 Prof. Prac	ID.	442 Prol. Prac	ID	443 Prof. Prac
	Prof. Grp. Elect."	ID	408 WR Int. Des. Res. 2	AR	Seminar 3
AR	Seminar 3	EH	400 Prin Des Lang	Elec	dive " 3
	MMER DESIGN PROGRAM *		BIRMINGHAM PROGRAM	EU	ROPEAN STUDIES PROGRAM RURAL STUDIO
AR	101-102-103 Basic Des 5-5-5	ID	Interior Design 6	ID	Interior Design 6
AR	105 Freehand Drawing 1	ID	Prof. Pract	AR	Dessein
AR	106 Proj. Geo. & Orth 1	CP	575 UD Mtd. & Prc	AR	Seminar
AR	107 Axo./Obl.Proj 1	AR	Seminar 3	AR	Elective
	2000 0000000000000000000000000000000000	BA	CHELOR OF INTERIOR DESIGN		

TOTAL — 197 QUARTER HOURS

- * Electives can be used for ROTC or combined into one 3-hour seminar and one 3-hour elective.
- Professional Group Elective, such as Bus. Law, CAD, Management, Speech, Accounting, Community Planning.

Landscape Architecture

The course of study in landscape architecture acknowledges the regional culture of its locale and student body while seeking to present an attitude toward design which is informed and world-based. The primary mission of the program is: to build upon the cultural value base of the region; expand the student's scope of perception, experience and technique; and develop an intellectural attitude of inquiry, tolerance and professionalism. Students are encouraged to develop the capability to bring order and balance to the environment in a way that reflects the highest values and aspirations of the human condition, unrestrained by popular convention.

The Landscape Architecture Program is accredited by the Landscape Architecture Accrediting Board, and the Bachelor of Landscape Architecture degree is awarded upon the successful completion of the fifth year of study. Qualified students may also elect to pursue concurrently the Master of Community Planning degree under a special dual degree program. The total curriculum prepares the student for professional practice.

Curriculum in Landscape Architecture (LA)

			FIRST YEAR		Third Occasion
	First Quarter		Second Quarter		Third Quarter
AR	101 Basic Design 5	AFI	102 Basic Design5	AR	103 Basic Design 5
AR	105 Freehand Drawing 1	AR	106 Proj. Geo. & Orth1	AR.	107 Axo./Obl.Proj
EH	110 Eng. Comp 5	BI	105 Pers, in Biology5	BI	107 Env. Biology 5
МН	160 Pre Cal. w/Trig 5	U	101 Soc., Cult. & Environ	PA	102 Ethics
			SECOND YEAR		
AR	201 Arch. Design 5	AR	202 Arch Design 5	LA	203 LA Design5
AR	205 Perspective 1	AR	206 Color Media & Theory 1	AR	207 Analytique1
U	102 Political Economy **3	U	103 Individual & Society 3	AR	270 Hist. & Theory of AR 5
EH	220 Great Books I	EH	221 Great Books II	AR	230 Matl. & Meth
HY	101 World History	HY	102 World History	HY	103 World History 3
	to transcribing to the control of		THIRD YEAR		
LA	301 Basic L.A. Design 6	LA	302 Basic L.A. Design 6	LA	303 Basic L.A. Design 6
LA	322 Euro. LA History 3	LA	323 Amer. LA History	LA	363 Comp. in LA3
LA	341 LA Const. I	LA	342 LA Construction	CP	576 Urban Design 3
HF	222 Arboriculture	GL	110 Physical Geology5	HF	321 Decid. Sh. & Vines 5
			FOURTH YEAR		BIRMINGHAM PROGRAM
LA	401 Natural Sci. Studio 6	LA	402 Int. LA Design	LA.	403 Urban Studio fi
LA	435 Dessein 3	LA	343 LA Construction	AR	Seminar3
Coor	Nat. Sci. Elective " 3	LA	455 Seminar	LA	571 Pro. Pract
ZY	306 Ecology5	EH	400 Adv. Composition 5	CP	575 Urb. Design5

School of Architecture

		FIFTH YEAR	
BS	501 Adv. LA Des. 6 597 WR Intro. to Res. 3 553 Seminar 3 ord. Elec. 3 C 324 Surveying 3 UMMER DESIGN PROGRAM 5	LA 502 Thesis/Term. Proj	LA 503 Thesis/Term. Proj
AR	101-102-103 Basic Des 5-5-5 105 Freehand Drawing 1		LA LA Design
AR	- 1 5 C 1 7 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C 2 C		
AR	106 Proj. Geo. & Orth 1		LA Seminar
AB	107 Axo./Obl.Proj		Elective3

BACHELOR OF LANDSCAPE ARCHTECTURE

TOTAL — 251 QUARTER HOURS

Pr. AR 100 For Summer Design Program.

Electives can be used for ROTC or combined into one 3-hour seminar and one 3-hour elective.

Coordinated Natural Science Electives include, but are not limited to: AY 310, CP 524, GY 315, GL 105, ZY 205, 527.
 Selection of 6 credit hours of coordinated electives will be developed with the Program Chair upon admission into

the Landscape Architecture Program in the third year.

Building Science

Students in the Building Science program learn the basic principles of science, architecture, engineering, business and construction. The four-year curriculum leads to the degree of Bachelor of Science in Building Construction, accredited by the American Council for Construction Education. Graduates qualify for positions in all areas of the construction industry.

The Cooperative Education Program is offered after completion of two quarters of study at Aubum. Non-majors will be accepted in BSC classes on a space-available basis.

Curriculum in Building Science (BSC)

	FIRST YEAR	
First Quarter	Second Quarter	Third Quarter
MH 161 An. Geom. & Cal. 5 EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ 3 HY 121 or 101 3 Elective 1	MH 162 An. Geom. & Cal. *	PS 205 Physics 4 PS 205L Physics Lab 1 PA 101 Intro. to Logic 5 U 103 Indiv. & Soc. 3 HY 123 or 103 3 Elective 1
	SECOND YEAR	
BSC 202 Matts. of Constr. 5 EH 220 Great Books I 5 PS 206 Physics 4 PS 206LPhysics Lab 1 BSC 200 Draw & Proj. 3	BSC 203 Wkg. Drwg. & Spec	BSC 211 Mech. of Struct
	THIRD YEAR	
BSC 311 Str. of Matls	BSC 314 Reinf. Concrete	BSC 315 App. Struct
	FOURTH YEAR	
BSC 534 Constr. Scheduling	BSC 404 Contracting Business 5- BSC 581 Project Management 4 BSC 425 Temporary Structures 3 Prof. Elective	BSC 490 Thesis 8 Business Elective 5
Elective4	OR OF SCIENCE IN BUILDING CONSTI	VOIMONO INDIANA INDIANA INDIANA

BACHELOR OF SCIENCE IN BUILDING CONSTRUCTION

TOTAL - 206 QUARTER HOURS

Five hours chemistry or MH 169 may be substituted for MH 162.

Six hours of BSC 399 may be used as free electives for co-op students; three hours for all others.

To be classified as 03 BSC and be able to take 300, 400 and 500 BSC courses, the student must have completed all coursework shown in the first two years of the model curriculum, have a 2.3 grade-point average on all courses attempted at Auburn University, and have completed a minimum of 96 quarter hours.

Industrial Design

Students of Industrial Design learn the basic principles of design, engineering, human factors, marketing and sociology. They acquire such technical skills as computer-aided design and drafting, prototype fabrication, photography, sketching and graphics techniques. Students are introduced to design methods, color theory, product planning, visual statistics, materials, manufacturing methods, consumer psychology and environmental studies.

The four-year curriculum, which is accredited by the National Association of Schools of Art and Design, leads to the professional degree of Bachelor of Industrial Design. Graduates will qualify for positions in industrial design consultant offices and in various industries. Motivated students will be considered for admission to the Graduate Program in Industrial Design. The Cooperative Education Program is offered at the completion of the second year of studio. Transfer students may qualify for Summer Design Program after completing IND 111 and 112.

Curriculum in Industrial Design (IND)

			FIRST YEAR		
	First Quarter		Second Quarter		Third Quarter
IND	110 Drw. Syst 5	IND	111 Persp. Drw5	IND	112 Drw. Des. Prod 5
MH	161 An. Geom. & Cal 5	EH	110 Eng. Comp 5	SM	101 Con. of Sci5
HY	121 Tech. & Civil	HY	122 Tech. & Civil	HY	123 Tech. & Civil,
U	101 Soc., Cult. & Environ 3	U	102 Political Economy3	IND	200 Res. Protofab 1
Elect	ive or ROTC 1	Elect	ive or ROTC1	U	103 Individual & Society 3
				Elec	tive or ROTC1
			SECOND YEAR		
IND	210 Prin. IND I 5	IND	211 Prin. IND II5	IND	212 Prin. IND III5
PA	102 Ethics 5	IND	221 Mtls. & Tech	IND	222 Ind. Des. Mths 5
CSE	100 Intro. to PC 3	EH	220 Great Books I5	EH	221 Great Books II
Elect	ive or ROTC 3		1011-015-1-01-01-01-0-0-0-0-0-0-0-0-0-0-		
			THIRD YEAR		
IND	310 IND/Con. Dev 6	IND	311 IND/Pack6	IND	312 IND/Prod. Des 6
IND	307 Anthropometry 5	IND	308 Design Wkshop 5	(ND	385 Sem. in IND5
PS	200 Fnd. Physics 5	EH	404 Tech. Writ5	Core	Fine Arts (p. 39)3
	Talifer Serverseemen minimum			CON	/ 100 Prof. Comm3
			FOURTH YEAR		
IND	410 IND/Systems 6	IND	411 IND/Adv. Prod	IND	412 IND/Thesis
IND	415 Hist. of IND	IND	420 WR Pro. Prac 5	MT	331 Prin. of Mkt 5
EC	202 Economics 5	IND	485 Sem. in IND5	PG	300- or 400-level course 5
		S	UMMER DESIGN PROGRAM *		
		IND	111 Persp. Dwg5		
		IND	112 Dwg. Des. Prod		
		BAC	HELOR OF INDUSTRIAL DESIGN		
		TO	TAL - 195 QUARTER HOURS		

College of Business

C. WAYNE ALDERMAN, Dean AMITAVA MITRA, Associate Dean

THE COLLEGE OF BUSINESS prepares students to become effective and socially responsible managers of business and industrial organizations and government agencies and responsible citizens and leaders of society.

To achieve this goal, the College offers undergraduate programs leading to the Bachelor of Science in Business Administration, In addition, it offers graduate work for the degrees of Master of Business Administration (MBA), Master of Science (MS) in both Economics and Business Administration, Master of Accountancy (MAc), and the Doctor of Philosophy in Economics, and Management. For the degree of Master of Science in Business Administration (MS), students are currently being enrolled in the Management Department concentration options of Human Resources Management and Operations Management. Students may also enroll in the Masters of Management Information Systems (MMIS) program. The College of Business is accredited at the undergraduate and graduate levels by the American Assembly of Collegiate Schools of Business. Detailed information on graduate programs may be found in the Graduate School Bulletin.

Curriculum

The undergraduate curriculum includes a two-year Pre-Business Program required of all students and a two-year Professional Option Program. These programs provide a balanced course of study for all students, with approximately one-half of the hours in business and economics courses and one-half in courses offered outside the College. The courses required have been selected so that all students will have access to the "common body of knowledge" as designated by the American Assembly of Collegiate Schools of Business.

The Pre-Business Program, a plan followed by all business students in their freshman and sophomore years, provides a sound foundation of work in the arts and sciences, including courses in mathematics, humanities, social sciences and natural sciences. This lower division

program also includes some of the introductory business courses.

The Professional Option Programs are offered through the School of Accountancy and the Departments of Finance; Economics; Management, and of Marketing and Transportation. The Professional Option plans allow each student to concentrate in an area of interest during the Junior and senior years. The 10 options available include: Accountancy (AC), Finance (FI), International Business (IB), Economics (EC), Management (MN), Operations Management (OM), Human Resources Management (HRMN), Management Information Systems (MIS), Marketing (MK) and Transportation and Physical Distribution (TN). Through these programs, the College seeks to develop in its students the analytical, decision-making and communication skills required of managers who lead modern organizations.

Admission to the College

Students entering the Pre-Business Program directly from high school or another college or university, in addition to meeting Auburn University's admission requirements, should have competence in the mathematics taught in high school geometry and second year algebra. Students also may transfer into the program from another school on campus if they have attained an overall grade-point average of at least 2.0 on all courses attempted at Auburn University.

Admission to Business Courses

A 2.0 cumulative grade-point average is required for enrollment in any Business course at the 300-level and above. This rule applies to both Business and non-Business students.

Graduation Requirements

To be graduated, business students must meet the hours and subject matter requirements of their curricula and must have an overall average of at least 2.0 on all courses attempted at Aubum University and meet all university requirements.

Student Advising System

The Office of Student Affairs of the College of Business is responsible for orienting all new students, freshmen and transferees to the College. All students report each quarter to the Lowder

Building, Suite 23, to plan their academic schedules and to obtain information.

Faculty are available to all students for academic counseling and career guidance. Students are encouraged to seek advice on professional and academic questions from department heads and faculty through personal arrangements or appointments made by Student Affairs.

Student Affairs is also available to assist students from another College or School on campus to pursue a second baccalaureate degree in the College of Business.

Cooperative Education Program

Business students are eligible to participate in AU's Cooperative Education Program. This program allows students to combine academic training with actual business experience.

Pre-Business Program

The requirements of the Pre-Business Program are given in the model below. Students who enter from high school register in this program until they complete all Pre-Business requirements. Students who enter by transfer and who have not yet completed all Pre-Business requirements, must register in the Pre-Business Program.

Before being admitted into a Professional Option Program, business students must complete all courses in the Pre-Business Program with a satisfactory academic record.

Specific professional options may differ in some details from the model presented here. Students should consult an advisor before selecting any classes.

Pre-Business Program

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	160 Pre-Cal w/Trig. 5 100 Intr. PC		161 An. Geom. & Cal5		169 Bus. Mh. w/Cal App 5 Science II (p. 39)
EH	110 Eng. Comp 5	Core	History II (p. 39)	Core	History III (p. 39)3
Core	History I (p. 39) 3	U	101 Soc., Cult. & Environ 3 SOPHOMORE YEAR	U	102 Political Economy 3
U	103 Indiv. & Soc	COM	100 Prof. Comm	PA	102 or 219 Ethics5
EH	220 Great Books I 5		221 Great Books II	MT	241 Bus. Law
EC	200 Economics I	EC	202 Economics II5	Elec	tive5
AC:	211 Prin. Acct. I 4	AC	212 Prin. Acct. II		010250250210250100111111111111111111111

School of Accountancy

Accountancy

The Professional Option Program in Accountancy develops the student's ability to work effectively, to exercise mental discipline and to communicate orally and in writing. The student gains an appreciation of the accountant's high standard of integrity and objectivity in reporting and an awareness of the responsibility for self-education upon entering a career in accountancy.

The Professional Option Program in Accountancy is intended to attract to accountancy careers those students seeming to possess the potential for making a contribution to the advancement of accountancy and have the aptitude which indicates a reasonable chance for a successful career.

Students who plan to sit for the CPA Exam should consider a fifth year of study through the Master of Accountancy (MAc) Program. Beginning in 1995, those sitting for the CPA Exam in the State of Alabama must have completed a fifth year of accounting education. Information regarding the MAc Program can be found in the *Graduate School Bulletin*.

A student who does not meet the admission requirements for the graduate program must complete the 192-hour requirement of the undergraduate program to receive a B.S. degree in business administration with a professional option in accounting.

Students planning to enroll in the Master's of Accountancy-Taxation Concentration are strongly encouraged to take AC 614 as it is a prerequisite to AC 630.

Curriculum in Accountancy (AC)

FRESHMAN AND SOPHOMORE YEARS

(Same as Pre-Business Curriculum

Louine	as Fig-business Guincui
	JUNIOR YEAR

First Quarter		Second Quarter	Third Quarter
AC 311 Inter. Acct. I	5 EH	408 Business Writing5	Core Fine Arts (p. 39)
MN 310 Prin of Mgt	5 MN	314 Intro. to MIS2	AC 313 Inter. Acct. III
MN 301 Statistics I	5 AC	312 Inter. Acct. II	AC 319 Bus. Law Acct 5
Elective	1 FL	361 Prin. of Finance5	Elective3

College of Business

		SENIOR YEAR		
WIT	331 Pnn. of Mkt 5	Elective *	5	AC 416 Auditing
AC	417 Cost Acct	Elective	5	Elective3
AC	314 Income Tax 5	AC 415 Acct. Systs	5	MN 480 Bus. Policies
	111111111111111111111111111111111111111	inspansanion and a second	**)*(**	Elective3

TOTAL - 192 QUARTER HOURS

Department of Economics

Business Economics

The Business Economics curriculum provides maximum flexibility and broad-based preparation for future employment opportunities. Graduates are prepared for entry-level positions in many areas of business activity. In addition, the Economics Option provides excellent preparation for graduate or professional studies. (See also Economics Major in the College of Liberal Arts.)

Curriculum in Business Economics (EC)

FRESHMAN AND SOPHOMORE YEARS

(Same as Pre-Business Curriculum)

	JUNIOH YEAH	
First Quarter	Second Quarter	Third Quarter
551 Inter. MicEcon	EC 556 Inter. MacEcon	MT 331 Prin. of Mkt
361 Prin. of Fin 5	MN 301 Statistics I	Dept. Elect. *
310 Prin. of Mgt 5	Elective 5	MN 314 Intro. MIS2
	AND THE RESIDENCE OF THE PARTY	Core Fine Arts (p. 39)3
	SENIOR YEAR	
408 Business Writing 5	Dept. Elect. *	MN 480 Bus. Policies 5
554 Hist. Ec. Thought	Elective	Dept. Elect. *
Elect. *	Elective 5	Elective5
ve	Elective 2	101000010101010100000000000000000000000
	TOTAL - 192 QUARTER HOURS	
	551 Inter Mic-Econ. 5 361 Prin. of Prin. 5 310 Prin. of Mgt. 5 408 Business Writing 5	S51 Inter Mic-Econ.

Department Elective - any EC course other than EC 206 or 301

Department of Finance

Finance

The influence and responsibilities of financial executives have expanded dramatically in recent years. Financial officers are involved in the most profound decisions affecting the strategy of business operations. They decide to expand, merge, contract and change. They are concerned not only with the pricing of products, but with the initial decision to produce them. All aspects of business affairs ultimately reduce to dollar terms, and the financial officers' intimate knowledge of the intricacies of financial operations place them in a vital role in corporate management.

The Professional Option Program in Finance offers students an opportunity to specialize in sub areas of finance. Courses in real estate are available.

Curriculum in Finance (FI)

FRESHMAN AND SOPHOMORE YEARS

(Same as Pre-Business Curriculum)

		JUNIOR YEAR		
First Quarter		Second Quarter		Third Quarter
MN 301 Statistics I	5 AC	311 Inter. Acct. I	AC	312 Inter. Acct. II5
AC 213 Mgr. Cost & Budget	4 FI	363 Adv. Fin5	FI	464 Investments 5
FI 361 Prin. of Fin	5 MN	310 Prin. of Mgt5	FI	367 Fin. Inst 5
Core Fine Arts (p. 39)	3		MN	314 Intro. to MIS2
		SENIOR YEAR		
MT 331 Prin. Mkt	5 EH	408 Business Writing5	MN	480 Bus. Policies 5
Elective	4 Elec	tive 5	Elec	tive4
Fin. Elective *	5 Fin.	Elective * 5	Des	Elective **5
	Elec	tive 3		0:0:0:00000000000000000000000000000000

TOTAL - 192 QUARTER HOURS

FINANCE ELECTIVES: FI 423 Real Estate Fin. (5), 463 Fin. Mgt.-Cases (5), 466 Sec Anal. & Port. Mgt. (5), 469 Mgt. of Fin. Inst. (5), 471 Utility Finance (5).

DESIGNATED ELECTIVE: A designated elective may be chosen from among any of the 300-, 400-, 500-level AC or FI courses, exclusive of AC or FI 400 or 490 or 340.

Non fifth-year students may take one elective from AC 511, 512 or 514 if they meet Graduate School requirements for an undergraduate to enroll in a graduate course.

International Business

The International Business Option provides the student with the opportunity to develop analytical and decision making skills necessary for effective participation in the global challenge facing American business today. The curriculum is designed to emphasize the additional risks encountered by international business firms and to enable the student to acquire proficiency in a foreign language including specialized business terminology. (See also Foreign Languages — International Trade Major in the College of Liberal Arts.)

Curriculum in International Business (IB)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
MH 160 Pre-Cal. w/Trig	MH 161 An. Geom. & Cal. 5 CSE 100 Intro PC 3 Core History I (p. 39) 3 U 101 Soc., Cult. & Environ. 3	MH 169 Bus. Math w/Cal. App. 5 U 102 Political Economy 3 Core History II (p. 39) 3 Foreign Language * 5
22-101001000000000000000000000000000000	Foreign Language *	***************************************
	SOPHOMORE YEAR	
Core History III (p. 39)	EH 220 Great Books	EH 221 Great Books II 5 EC 202 Econ. II 5 Foreign Language 5 5 or Foreign Language 4 and Elective 1
Elective1	Elective 1	in a manufactural page 5-5000 contract
	JUNIOR YEAR	
MT 331 Prin. Mkt	Core Science I (p. 39)	Core Science II (p. 39)
	SENIOR YEAR	
EC 571 Intl. Econ	Elective 2 Bus. Concen. " 5 MT 241 Bus. Law 5 Core Fine Arts (p. 39) 3	MN 480 Bus. Policies

TOTAL - 192 QUARTER HOURS

Language sequence to be taken exclusively in French, Spanish or German.
 FRENCH: FR 101, 102, 103, 201, 202, 203, 301, 302, 321
 GERMAN: GR 101, 102, 103, 201, 202, 203, 301, 302, 401

SPANISH: SP 101, 102, 103, 201, 202, 203, 303, 304 and one of the following, 320, 321 or 322

A Business Concentration must be selected from one of the following areas. Economics: EC 551, 556 and any 500-level economics elective, Finance: FI 363, 367 and 464. Human Res. Mgt.: MN 342, 443 and any one of MN 346, 501, 547, 550, 551, 553. Marketing (choice of three items from): MT 332, 333 336, 341, 372, 373, 440. Operations Mgt.: MN 380, 386 and 387. MIS: MN 307, 401 and 583.

Department of Management

The Management Program prepares students in basic business functions as well as the process of management and the use of technology to support these functions and processes.

The professional options within the Management Department are designed to impart knowledge which will assist future managers to be good decision makers for their organizations. The professional options available are Operations Management, Management, Human Resources Management and Management Information Systems.

Operations Management

The program prepares students for positions in manufacturing, government and service organizations. Electives may be chosen to provide an emphasis computer information systems, process control and improvement, materials management, service operations management, purchasing or forest products.

Curriculum in Operations Management (OM)

FRESHMAN AND SOPHOMORE YEARS (Same as Pre-Business Curriculum)

			JUNION TEAN	
	First Quarter		Second Quarter	Third Quarter
N	310 Prin. of Mgt5	MN	380 Prin. Op. Mgt5	MN 385 Prod. Mgt 5
Т	331 Prin. of Mkt 5	MN	314 Intro. to MIS2	Core Fine Arts (p. 39)
N	301 Statistics I 5	FI	361 Prin. of Fin5	C.O.B. Elect. *5
	ear a service I monthly monthly	mr.		Non Due Flort 18

MN

MT

MN

College of Business

MN 386 Mat. Mgt. I	MN 387 Mtls. Mgt. II	MN 480 Bus. Policies
MN 474 Quality Assur	Elective	MN 484 Oper Mgt. Pol
	TOTAL - 192 QUARTER HOURS	

* College of Business (COB) electives (10 hours); MN 307, 308, 401, 483; MN 342, 346, 374, 381, 410, 414, 415; MN 420, 421, 440, 443, 475; MT 341, 347, 373, 434, 438, 474, 477; AC 213.

Non-business electives (5 hours): IE 401, 501 or 503, 508; PO 410; HA 360, 370; FP 301, 311, 339, 474, 475, 477; TMT 200, 480; AM 314; PA 201.

Management

The Management Professional Option prepares students to assume managerial and staff responsibilities in business, government and non-profit organizations. Emphasis is on broad management training rather than specialization in a particular industry. In addition to a general Management concentration, a more specialized program in Technology Management is available for students whose career plans may focus on a technology-based field.

Curriculum in Management (MN)

FRESHMAN AND SOPHOMORE YEARS

(Same as Pre-Business Curriculum)

TOTAL - 192 QUARTER HOURS

A concentration may be obtained by taking College of Business electives listed below:

General Management Concentration: Management (choose 1) - MN 307, 401, 404, 405, 410, 414, 415, 420, 421, 440, 443, any 500-level MN elective; Finance (choose 1) - FI 323, 362, 363, 367, 423, 451, 464; Marketing (choose 1) - MT 242, 255, 332, 333, 336, 341, 347, 372, 373, 440; International (choose 1) - MN 410, MT 440, FI 451, EC 571; Business Elective - choose from any of the above business electives or EC 360.

Technology Management Concentration: (a) Replace FI and MT electives with two Operations Management electives. (b) Replace BUS and MN electives with two Management Information Systems electives.

Human Resources Management

The Human Resources Management Program provides a comprehensive education in human resources management. Primary goals are to provide knowledge oriented toward practical, on-the-job applications and prepare students for entry-level positions in private and public sector organizations. Beyond the strong foundation in human resources, opportunities are provided for students to take courses relating to other areas such as information systems, service industry operations and strategic management.

Curriculum in Human Resources Management (HRMN)

FRESHMAN AND SOPHOMORE YEARS

(Same as Pre-Business Curriculum)

			JUNIOR YEAR		
	First Quarter		Second Quarter		Third Quarter
MN	310 Prin, of Mgt 5	MN	443 Labor Relat 5	MN	346 Org. Behavior
MT	331 Prin. of Mkt 5	EH	408 Business Writing5	FI	361 Prin. of Fin
MN	301 Statistics I 5	MN	342 Hum. Res. Mgt	MN	314 Intro. to MIS2
	101000000000000000000000000000000000000		141111111111111111111111111111111111111	Elec	tive5
			SENIOR YEAR		
MN	501 Labor Rel. Law 5	MN	546 Pers. Adm. Leg 5	MN	480 Bus. Policies
MN	550 Pers. Sel. & Pl 5	MN	551 Manpower Plan5	MN	547 Emp. Comp5
Core	Fine Arts (p. 39) 3	MN	552 Pers. Org. Res or	Elec	tive5
	ive 5	MN	553 Lab. Neg. & Arb 5		***************************************
		TO	TAL - 192 QUARTER HOURS		

Management Information Systems

Businesses devote large amounts of resources to the systems that provide vital operational information. It is the responsibility of information systems (IS) professionals to manage these systems efficiently and effectively. The MIS Program prepares students for managerial and staff positions in the field, such as programmer-analyst, systems analyst, database administrator and

telecommunications administrator, plus sales and training positions that require an understanding of information technology. The emphasis of the MIS Program is the management and use of information technology, including the skills to use it, the understanding to plan for, analyze and manage it, and the knowledge to employ it in the solution of business opportunities and problems. MIS instruction consists of hands-on computer use, lecture, discussion, field trips, demonstrations, presentation by practitioners, applied team projects in the business community and case studies. Students are cautioned that 300- and 400-level MIS courses have enforced prerequisites and an earned grade of C or better must be obtained for all prerequisites to 400-level courses.

Curriculum in Management Information Systems (MIS)

FRESHMAN AND SOPHOMORE YEARS

(Same as Pre-Business Curriculum)

			JUNIOR YEAR		
	First Quarter		Second Quarter		Third Quarter
MT	331 Prin. of Marketing 5	FI	361 Prin. of Fin 5	MN	308 Adv. Prog. & App 5
MN	310 Prin. of Mgt 5	MN.	307 Bus. Comp. Appl 5	MN	401 Analysis & Design
MN	301 Statistics 5	MN	380 Prin. Oper. Mgt 5	EH	408 Business Writing 5
MN	314 Intro. to MIS 2	Core	Fine Arts (p. 39)3		
			SENIOR YEAR		
MN	404 Telecom. & Netw 5	MN	588 MIS Projects5	MN	480 Bus. Policies
MN	483 Data Base Mgt 5	MN	405 Info. Res. Mgt 5		Bus. Elective *
	Elective 5		Elective 5		Elective 5
		TO	TAL - 192 QUARTER HOURS		

A Business Elective is a course in the College of Business at the 300-level or above or CSE 200.

Department of Marketing and Transportation

Marketing majors discover the interrelationship of marketing to other management tools and prepare themselves for executive/managerial careers involving functional areas such as advertising, channel and product decision-making, pricing, retailing and strategic market planning. Transportation and Physical Distribution majors prepare for careers in carrier, physical distribution and industrial traffic management and for assignments in urban transportation and development planning, and as traffic and transportation and distribution specialists.

Curriculum in Marketing (MK)

FRESHMAN AND SOPHOMORE YEARS

(Same as Pre-Business Curriculum)

			OUNION I LAN		
	First Quarter		Second Quarter		Third Quarter
PA	201 Deductive Logic	MN	310 Prin. of Mgt5	MT	373 Intro. Phys. Dist 5
MN	301 Statistics I	MT	336 Quan. Anal. Mkt	Elec	tive
MT	331 Prin. of Mkt	MT	341 Buyer Behavior 5	FI	361 Prin. of Fin 5
Core	Fine Arts (p. 39)			MN	314 Intro. to MIS2
			SENIOR YEAR		
MT	436 Mkt. Res 5	Dept.	Elect. 1	MT	498 Mkt. Strategy5
EH	408 Business Writing 5	Dept.	Elect. *	MN	480 Bus. Policies 5
per a la		Williams	Francis Contract Cont	977 mm	ACC.

TOTAL — 192 QUARTER HOURS

Departmental Electives — MT 432, 433, 434, 437, 438, 440, 470, 472, 477, 581, 582, 583, 584, 585.

Curriculum in Transportation and Physical Distribution (TN)

FRESHMAN AND SOPHOMORE YEARS

(Same as Pre-Business Curriculum)

			JUNIOR YEAR		
	First Quarter		Second Quarter		Third Quarter
AC	213 Mgrl. Cost & Bud	MT	372 Prin. of Transp 5	MT	373 Intr. Phys. Dist
MN	301 Statistics I 5	MN	310 Prin. of Mgt5	FI	361 Prin. of Fin
EH	408 B&P Wnt 5	MT	331 Prin. of Mkl	MT	474 Ind. Traf. Mgt
	Elective			MN	314 Intro. to MIS2
			SENIOR YEAR		
MT	475 Tran. Reg. & Pol	MT	476 Carrier Mgt 5	MN	480 Bus. Policies 5
	Core Fine Arts (p. 39)		Dir. Elect. **		Dir. Elect. **
	Dept. Elective 1 5		Elective		Elective5
	Elective3		/ manufactor memory agont at out of the control of		1900101101101101101101101101101101101101
		-			

TOTAL — 192 QUARTER HOURS

Departmental Electives for Transportation and Physical Distribution. MT 336, 341, 347, 434, 437, 438, 440, 477, 588.
 Directed Electives. Report to a departmental advisor to select an approved career-oriented business or non-business elective. Bring your approval form to Student Affairs.

College of Education

RICHARD C. KUNKEL, Dean VIRGINIA HAYES, Associate Dean JEFFREY GORRELL, Associate Dean ROBERT E. ROWSEY, Assistant Dean EMILY A. MELVIN, Assistant Dean

THE COLLEGE OF EDUCATION is accredited by the National Council for Accreditation of Teacher Education for the preparation of teachers and school service personnel with the doctor's degree as the highest degree approved. Emphasis in all programs is upon the preparation of personnel who will be able to meet successfully the performance demands of the roles they assume in their professional positions.

Undergraduate Curricula

Bachelor's degree options in the College of Education are the Bachelor of Science in Education and the Bachelor of Music Education.

Teaching and non-teaching programs are offered through the College of Education. Teaching programs are presented first, followed by non-teaching programs.

Scholastic Requirements

The Selective Admission and Retention Program in Teacher Education — In recognition of responsibilities to the schools in which its graduates teach, the College maintains a program of selective admission and retention of candidates for the teaching profession. This program is designed to assure that no candidates are recommended for admission to the Teacher Education Program, the professional internship or certification unless they are deemed competent in their university studies and professional performance.

A grade-point average of 2.5 (computed by the State Department of Education formula for admission to teacher education programs) is required to transfer into a teacher education program. The classification GCE, General College of Education, will be assigned to transfer students until eligibility to enter a professional program is determined and/or attained.

Students must submit a formal written application for admission to Teacher Education after completing at least 90 quarter hours of work, usually at the end of the sophomore year. Criteria for admission are:

- a minimum grade-point average of at least 2.5 (on a four-point scale) computed by State Department of Education formula;
- 2. satisfactory performance on a written and spoken English language competency examination;
- satisfactory performance in an interview examining personality, interests and aptitudes consistent with the requirements for successful teaching; and
- 4. successful performance in the pre-professional field experience.

Students who fail to meet these criteria upon initial application may submit new evidence in an effort to satisfy any and/or all of the above standards.

While retention in the Teacher Education Program is based on the continuous evaluation of students, a formal evaluation takes place as a prerequisite for admission to the professional internship. Requirements for admission to the professional internship are:

- 1. admission to the Teacher Education Program;
- 2. completion of appropriate courses in the area of specialization;
- a grade-point average of 2.5 or above computed by State Department of Education formula in each of the following: professional teacher education, the teaching major(s), overall; and
- 4. demonstrated potential for teaching.

In addition, in order to be eligible for graduation with teacher certification, the students will be expected to complete the requirements identified above, to demonstrate readiness to teach and to achieve a grade-point average of 2.5 computed by State Department of Education formula in each of the following: professional teacher education, the teaching major(s), and overall.

Persons with degrees may apply for study in a curriculum leading to professional certification; the above standards must be met to qualify for certification.

Applications and specific information about the criteria for admission to teacher education are available from the Teacher Education Services Office in Haley Center 3464.

Liability insurance is required for all students who participate in laboratory experiences.

Program Options, Teaching

The following table shows teacher education program options available in the College of Education. Programs appear by department.

			Grade Le	AG12	
Department and Program	N-3	1-6	4-8	7-12	N-12
Curriculum & Teaching					
Early Childhood	X				
Elementary		X			
General Science			X	X	
Language Arts					
Mathematics			X	X manner	
Music, Instrumental					X
Music, Vocal Choral				-	X
Social Science					
Two majors from:				X	
Biology, Chemistry, Economics, English, Fr	rench Geography.	German, Histo	rv. Mathemat	cs. Physics*,	Political Scien
Psychology, Sociology, Spanish	onon see grapily		C. Fr. Communication		
Health & Human Performance					x
Health & Human Performance Physical Education					x
Health & Human Performance Physical Education Rehabilitation & Special Education			11171111111111111111111111111111111111		X
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped	X				
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted	×	***************************************	10111111111111111111111111111111111111		к
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Retarded	×	***************************************	10111111111111111111111111111111111111		к
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Retarded Vocational & Adult Eduction	X	***************************************	10110114444444444444444444444444444444	reconstruction of the second	к
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Retarded Vocational & Adult Eduction Agribusiness Education	×	***************************************		X	к
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Retarded Vocational & Adult Eduction Agribusiness Education Business Education				X	к
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Retarded Vocational & Adult Eduction Agritusiness Education Business Education Health Occupations			121127411242111111111111111111111111111	X	к
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Retarded /ocational & Adult Eduction Agribusiness Education Business Education Health Occupations Home Economics	*		1211272112442002001100000000000000000000	X	x
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Relarded Vocational & Adult Eduction Agribusiness Education Business Education Health Occupations Home Economics Industrial Arts	X			x x x	x
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Retarded Vocational & Adult Eduction Agribusiness Education Business Education Health Occupations Home Economics Industrial Arts Industrial Education (T&I)	X			x x x x x x x	x
Health & Human Performance Physical Education Rehabilitation & Special Education Early Childhood Handicapped Emotionally Conflicted Mentally Retarded Vocational & Adult Eduction Agribusiness Education Business Education Health Occupations Home Economics Industrial Arts	X			x x x x x x x	x

Requirements for Fields of Specialization

Curriculum models appear below. Curriculum check lists are available in the Office of Teacher Education Services, 3464 Haley Center.

Curriculum and Teaching

Curriculum in Early Childhood

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 Core History (p. 39) 3 MU 371 Intr. Music 3 PE 2	Fine Arts/TH **	Core Science (p. 39)
CTC 102 Orientation1	Elective 3	Elective4
ROTC or Elective 1	ROTC or Elective 1	ROTC or Elective1
	SOPHOMORE YEAR	
EH 220 Great Books I	EH 221 Great Books II 5 U 102 Political Economy 3 Mathematics/Science 5 EC 200 Economics I 5 ROTC or Elective 1	U 103 Individual & Society
	JUNIOR YEAR	
EM 510 Media 4 CTC 355 Surv. EG 3 EH Adv. Comp. (p. 39) 5 CTM 304 Music 5	CTC Elective 3 CTC 315 Lang. Dev. 4 FED 300 Ed. Psych. 5 CTR 370 Reading 5	FCD 301 Early & Mid. Ch. Dev
	SENIOR YEAR	
CTC Elective 3 FED 400 Eval. Meas.* 5 FED 350 Cult. Fnd.* 5 CTC 321 Nat. Lmr.* 3 CCP 322 Hum. Rel.* 2	CTC 420 Const. Tchr.* 3 CTC 421 Const. Tchr.* 3 CTC 495a Prac. Pres. 4 CTC 495b Prac. Prim.* 4 EDL 401 Org. Adm. Sc.* 2	CTC 425 Intern*
	TOTAL HOURS — 204	

Prerequisite Admission to Teacher Education.

College of Education

Curriculum in Elementary Education

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 Core History (p. 39) 3 SM 101 Concepts. Sci. 5 CTE 102 Orientation 1 HHP 195 Hith. Sci. 2	MH 160 Pre-Cal. w/Trig. 5 Core History (p. 39) 3 Core Science (p. 39) 5 ROTC or Elective 3	Core Philosophy (p. 39) 5 Core History (p. 39) 3 Core Fine Arts (p. 39) 3 Concentration 5 ROTC or Elective 3
EH 220 Great Books I	SOPHOMORE YEAR	MU 371 Intr. Music
	JUNIOR YEAR	
EH Adv. Comp. (p. 39) 5 EM 510 Media Inst. 4 FED 300 Educ. Psych. 5 Concentration 5	CCP 322 Hum Rel. Tmg. *	CTR 370 Rdg. Inst. I
	SENIOR YEAR	
CTE 302 Cur I LA *	CTE 303 Cur. I Soc. Sci. *	CTE 425 Intern*

Prerequisite Admission to Teacher Education.

Curriculum in General Science (Middle School)

TOTAL HOURS - 213

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp	BI 101 Prin. Biol	BI 102 Plant Biol
MH 161 An. Geom. & Calc, 5	Core Fine Arts (p. 39)3	GL 110 Geology5
CTS 102 Orientation 1	HHP 195 Hith. Sci2	EM 200 Ed. Media2
PE2	Core Ethics (p. 39) 5	ROTC or Elective1
ROTC or Elective 1	ROTC or Elective 1	10
	SOPHOMORE YEAR	
EH 220 Great Books 1 5	EH 221 Great Books II	EC 200 Econ. I
CH 103 Fund. Chem. I	CH 104 Fund. Chem. II 4	CH Org. Chem5
CH 103LGen Chem Lab 1	CH 104LGen. Chem. Lab	Core History (p. 39)3
Core History (p. 39)	Core History (p. 39)	PS 206 Physics II
GL 111 Geology5	PS 205 Physics I 4	ROTG or Elective1
ROTC or Elective	ROTC or Elective 1	20000000000000000000000000000000000000
	JUNIOR YEAR	
EH Adv. Comp. (p. 39)	CH Elective 5	CTS 401 Tech. Sci
PS 207 Phys. III	CTR 370 Reading 5	PS Elective4
AM/AYEarth/Space	AM/AY Earth/Space5	Science5
FED 300 Ed. Psych	CTD 419 Mid. Sch 5	RSE 376 Surv. Exc
indicated particular and the second		FED 350 Cult. Fnd. *
	SENIOR YEAR	
BY/ZY300-5005	BY/ZY300-5005	CTS 425 Intern *
CTS 405 Tchg, Sci.*	CTS 410 Prog. Sci. *3	
CCP 322 Hum. Rel.*	EDL 401 Org. Adm. *2	***************************************
FED 400 Meas.*	CTS 415 Trends Sci. *	· · · · · · · · · · · · · · · · · · ·
CTR 571 Reading' 5	Science 5	
	TOTAL HOURS — 221	

Prerequisite Admission to Teacher Education.

Curriculum in General Science (High School)

		FRESHMAN YEAR		
	First Quarter	Second Quarter		Third Quarter
EH	110 Eng. Comp 5	BI 101 Prin. Biol5	BI	102 Plant Biol5
U	101 Soc., Cult. & Environ, 3	U 102 Political Economy 3	U	103 Individual & Society 3
MH	161 An. Geom. & Calc 5	Core Fine Arts (p. 39)3		110 Geology5
CTS		HHP 195 Hith. Sci2		200 Ed. Media2
PE	2	Core Philosophy (p. 39)5	ROT	C or Elective1
ROTE	or Flective 1	ROTC or Elective 1		

College of Education

	SOPHOMORE YEAR	
EH 220 Great Books I 5	EH 221 Great Books II5	EC 200 Econ. I
CH 103 Fund. Chem. 1	CH 104 Fund. Chem. II	CH Organic5
CH 103LGen, Chem, Lab	CH104LGen, Chem, Lab1	Core History (p. 39)3
Core History (p. 39)3	Core History (p. 39)	PS 206 Physics III
GL 111 Geology 5	PS 205 Physics I	ROTC or Elective 1
ROTC or Elective1	ROTC or Elective 1	
	JUNIOR YEAR	
EH Adv. Comp. (p. 39) 5	CH Elective 5	CTS 401 Tech. Sci
PS 207 Physics III 4	PS Elective 4	PS Elective4
AM/AY Earth/Space5	AM/AY Earth/Space5	Science
FED 300 Ed. Psych5	CTS 420 Sec. Sch5	RSE 376 Surv. Exc5
	(MANAGEMENT AND ASSESSMENT OF THE PARTY OF T	FED 350 Cult. Fnd. Ed. 1
	SENIOR YEAR	
BY/ZY300-5005	BY/ZY300-500 5	CTS 425 Intern* 15
CTS 405 Tchg. Sci.*	CTS 410 Prog. Sci.4	mum somethers and
CCP 322 Hum. Rel.*	EDL 401 Org. Adm.*2	
FED 400 Meas.* 5	CTS 415 Trends Sq.*3	ALTERNATION OF THE PROPERTY OF
CTR 571 Reading* 5	Science	

TOTAL HOURS — 220

Prerequisite Admission to Teacher Education.

Curriculum in Music - Vocal/Choral

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp 5	Core Mathematics**5	Core Science (p. 39) 5
Core History (p. 39)	Core History (p. 39)	Core History (p. 39)3
MU 131 Mat. & Org 5	MU 132 Mat. & Org	MU 133 Mat. & Org 5
CTM 102 Orientation1	MUA Applied 1	MUA Applied1
MU Ensemble 1	MU Ensemble 1	MU Ensemble1
MU Fretted Instrument 1	MU Instrumental 1	MU Instrumental1
MUA Applied 1	ROTC or Elective 1	ROTC or Elective1
ROTC or Elective1	***************************************	тини политини положения политини полити
	SOPHOMORE YEAR	
Core Science (p. 39) 5	EH 220 Great Books I5	EH 221 Great Books II
MU 231 Mat & Org 5	MU 232 Mat & Org5	MU 233 Mal. & Org 5
U 101 Soc., Cult. & Environ 3	U 102 Political Economy3	U 103 Individual & Society 3
MU Ensemble 1	MU Ensemble 1	MU Ensemble1
MUA Applied 1	MUA Applied 1	MUA Applied1
PE Elective 2	HHP 195 Hith, Sci2	EM 200 Educ Media
MU Instrumental 1	ROTC or Elective 1	ROTC or Elective1
ROTC or Elective 1		
	JUNIOR YEAR	
EH Adv. Comp. (p. 39) 5	FED 350 Cult. Fnd. Ed.*	EC 200 Econ. I
FED 300 Educ. Psych 5	CCP 322 Hum. Rel. Tmg.1	Science
CTM/MUT Elective	GTM 304 Mus. Rel. Arts3	MU 353 Music History III
MU 351 Music History I 3	MU 352 Music History II	MU 363 Conducting III2
MU 361 Conducting I2	MU 362 Conducting II2	MUA Applied1
MUA Applied1	MU 442 Voc. Ped3	MU Ensemble1
MU Ensemble 1	MUA Applied 1	MU 553 Choral Lif
teteriterin in in interior constitution in the	MU Ensemble 1	tantonomonomony preventant
	SENIOR YEAR	
RSE 376 Surv. Exc 5	Core Philosophy (p. 39) 5	CTM 425 Intem* 15
EDL 401 Org. Adm. Ed." 2	FED 400 Meas, & Eval.*	entering transmist to test test members.
CTR 571 Reading* 5	CTM 595 Sec. Chor. Meth.* 3	
MU 411 Choral Tech.*	MU 478 Choral Arrang 3	- intrate the months of the manual states of the states of
MUA Applied 1	MUA Applied 1	
MU Ensemble1	MU Ensemble 1	
CTM/MUT Elective	Hartistania de la constitución d	

TOTAL HOURS - 218

Curriculum in Music - Instrumental

Prerequisite Admission to Teacher Education.

	SOPHOMORE YEAR	
Core Science (p. 39) 5	EH 220 Great Books I	EH 221 Great Books II5
MU 231 Mat & Org	MU 232 Mat & Org5	MU 233 Mat. & Org 5
U 101 Soc., Cult. & Environ 3	U 102 Political Economy3	U 103 Individual & Society 3
MU Ensemble	MU Ensemble1	MU Ensemble1
MUA Applied 1	MUA Applied 1	MUA Applied1
MU Class instrument1	HHP 195 Hith, Sci2	EM 200 Educ. Media2
ROTC or Elective	ROTC or Elective 1	ROTC or Elective1
MU Vocal	MU Class Instrument1	MU Class Instrument1
Take attitutores salaring	JUNIOR YEAR	
TI 14 0-14 1- 201 E	FED 350 Cult. Fnd. Ed."	EC 200 Econ 15
EH Adv. Comp. (p. 39) 5	CCP 322 Hum, Rel. Tmg.*2	Science5
FED 300 Educ Psych 5		CTM/MUT Elective
MU 409 Mch. Band Tch 3	PE Elective 2 MU 352 Music History II 3	MU 353 Music History III
MU 351 Music History I 3		MU 363 Conducting III2
MU 361 Conducting I 2	MU 362 Conducting II2	MUA Applied
MUA Applied 1	CTM/MUT Elective2	MU Ensemble1
MU Ensemble1	MUA Applied 1	
-international automatement (Trees	MU Ensemble 1	***************************************
	SENIOR YEAR	
RSE 376 Surv. Exc 5	Core Philosophy (p. 39)5	GTM 425 Intern*
EDL 401 Org. Adm. Ed."	FED 400 Meas. & Eval.*	\$1000 foot 100.000
CTR 571 Reading*	CTM 594 Sec. Inst. Meth.*	
CTM 394 Elem. Inst.* 3	MU 477 Instrum, Arrang,3	**************************************
MUA Applied1	MUA Applied 1	поновоновоновничения
MU Ensemble1	MU Ensemble 1	HATTER THE PARTY OF THE PARTY O
MU Class Instrument1	- политической пол	
The same manufactured and the same of the	TOTAL HOURS —218	

Prerequisite Admission to Teacher Education:

Curriculum in General Social Science (Middle School)

	Life of the state	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp	Core Math (p. 39) 5	Core Philosophy (p. 39)5
U 101 Soc., Cult. & Environ 3.	U 102 Polit Econ3	U 103 Individual & Society 3
HHP 195 Hith. Sci	PE2	CTS 102 Orientation 1
Core Science (p. 39) 5	Core Science (p. 39)5	Science5
Core History (p. 39) 3	Core History (p. 39)	Core History (p. 39)3
ROTC or Elective	ROTC or Elective 1	ROTC or Elective1
TO TO OF ELECTRICATION	SOPHOMORE YEAR	
EH 220 Great Books I	EH 221 Great Books II5	RSE 376 Surv. Exc5
EC 200 Econ. 1	Core Fine Arts (p. 39)3	PO 209 Intr. Gov15
HY US 300-400 5	HY US 300-400 5	PG 201 Psychology5
ROTC or Elective	SOC 201 Intro. Soc	EM 200 Ed. Media2
NOTE OF Elective	ROTC or Elective1	ROTC or Elective1
	Soc. Sci. Elective	Interpretation of the control of the
	JUNIOR YEAR	
HY Europe 300-500 5	HY Asian 300-5005	GY 215 Cultural5
PO 312 Comparative 5	PO 300-5003	CTS 421 Soc. Sci. Concepts 5
CTD 419 Mid. Sch	GY 214 Phys. Geog5	EH Adv. Comp. (p. 39)5
FED 300 Ed. Psych 5	FED 350 Cult. Fnd.*5	CTR 370 Reading5
***************************************	SENIOR YEAR	
FED 400 Eval. Meas." 5	CTS 415 Curr. Tmd.*3	CTS 425 Intern* 15
CCP 322 Hum. Rel.* 2	CTS 410 Prog. SS*3	101001101111111111111111111111111111111
CTS 405 Tchg. SS* 3	EDL 401 Org. Adm."2	***************************************
ANT 200/201 Intro	CTR 571 Reading*5	
Soc. Sci. Elective	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
	TOTAL HOURS - 210	

Prerequisite Admission to Teacher Education.

Curriculum in General Social Science (High School)

First Quarter EH 110 Eng. Comp		Second Quarter	UCTS	Third Quarter
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SOPHOMORE YEAR	
5 Core Fine Arts (p. 39)	RSE 376 Surv. Exc. 5 PO 209 Intr. GoV1. 5 PG 201 Psychology 5 EM 200 Ed. Media 2 ROTC or Elective 1
JUNIOR YEAR	
5 PO 300-500	GY 215 Cultural
SENIOR YEAR	
2 CTS 410 Prog. SS'	CTS 425 intem*
the state of the state of the state of	5 EH 221 Great Books 5 5 Core Fine Arts (p. 39) 3 5 HY US 300-400 5 1 SOC 201 Intro. Soc. 3 ROTC or Elective 1 Soc. Sci. Elective 2 JUNIOR YEAR 5 HY Asian 300-500 5 5 PO 300-500 3 6 GY 214 Phys. Geog. 5 5 FED 350 Cult. Fnd. 5 SENIOR YEAR 5 CTS 415 Cur. Tmd. 3 2 CTS 410 Prog. SS 3 3 EDL 401 Org. Adm. 2 5 CTR 571 Reading 5 5 HY Lat. Am./Asia/Africa 4

Prerequisite Admission to Teacher Education.

Curriculum in Language Arts (High School)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
EH 110 Eng. Comp 5		Core	Fine Arts/TH ** 3	Core	Philosophy (p. 39) 5
	History (p. 39)		History (p. 39)		History (p. 39)3
	Science (p. 39)		Science (p. 39)5		nce5
	Math (p. 39)	HHP	195 Hith, Sci	CTS	205 Communication
	or Elective 1	PE	2		C or Elective 1
HOTE		CTS	102 Orientation 1	1,100	
			or Elective		1,1111111111111111111111111111111111111
	~~~	HOIL			
			SOPHOMORE YEAR	4.71	Control of the Contro
EH	220 Great Books I 5	EH	221 Great Books II	EH	470/471 Shakespeare 5
TH	Elective5	COM	Speech Elective5	1000	376 Surv. Exc
EC	200 Econ. I 5	EM	200 Ed. Media	FED	
U	101 Soc., Cult. & Environ 3	U	102 Political Economy 3	U	103 Individual & Society 3
ROTO	C or Elective 1	ROTO	C or Elective1	ROT	C or Elective 1
			JUNIOR YEAR		
EH	400 Adv. Comp 5	EH	Language 5	EH	400-500 5
CTS	501 Lang. Study 5	EH	400-500 5	JM	Elective4
CTS	502 Rhet. Com	FED	350 Cult. Fnd.*	CTS	
015	442	100		CTR	571 Reading*
			SENIOR YEAR		
-	100 700	EH	400-500 5	CTS	425 Intern*
EH	400-500 5	CTS	411 Tch. Lang.*	010	
FED	400 Meas. Eval.*	CTS	412 Tch. Lift.*		
CTR	576 Reading 5	-	413 Tch Comp.*		
CCP	322 Hum. Rel."2	CTS			
	malasapessamusiasononomonomoni	EDL			WHEN THE THE PARTY OF THE PARTY
			TOTAL HOURS — 204		

Prerequisite Admission to Teacher Education.

# Curriculum in Language Arts (Middle School)

	FHESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp 5	Core Fine Arts/TH **	Core Philosophy (p. 39)5
Core History (p. 39)	Core History (p. 39)	Core History (p. 39)3
Core Science (p. 39) 5	Core Science (p. 39)5	Science
Core Math (p. 39)	HHP 195 Hith, Sci2	CTS 205 Communication 3
ROTC or Elective 1	PE2	ROTC or Elective1
	CTS 102 Orientation1	
-2	ROTC or Elective 1	нанимононополонополоно
	SOPHOMORE YEAR	
EH 220 Great Books I 5	EH 221 Great Books II	EH 470/471 Shakespeare 5
TH Elective5	COM Speech Elective5	RSE 376 Surv. Exc
EC 200 Econ. I	EM 200 Ed. Media2	FED 300 Ed. Psych5
U 101 Soc., Cult. & Environ 3	U 102 Political Economy 3	U 103 Individual & Society 3
ROTC or Elective	ROTC or Elective 1	ROTC or Elective1
	JUNIOR YEAR	
EH 400 Adv. Comp 5	EH Language 5	EH 400-5005
CTS 501 Lang. Study 5	EH 400-500 5	JM Elective4
CTS 502 Rhet. Com	FED 350 Cult. Fnd."	CTR 571 Reading*
CTR 370 Reading 5	CTD 419 Middle School 5	yuzzuzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz

			SENIOR YEAR		
EH	400-500 5	EH	400-500 5	CTS	425 Intern*
FED	400 Meas. Eval 1 5	CTS	411 Tch Lang.*		
CTR	576 Reading 5	CTS	412 Tch. Lit.*		
	322 Hum. Rel.*	CTS	413 Tch Comp."3		
	romanne primine de la companya del companya del companya de la com	EDL	401 Org. Adm2		
			TOTAL HOURS - 209		

Prerequisite Admission to Teacher Education.

# Curriculum in Mathematics (High School)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
Core History MH 16 Core Scie ROTC or	0 Eng. Comp. 5 ory (p. 39) 3 1 An Geom. & Calc. 5 ince (p. 39) 5 Elective 1	MH Core:	Fine Arts (p. 39)	Core MH CTS	Ethics (p. 39) 5 History (p. 39) 3 163 An. Geom. & Calc. 5 204 Comp. Prog. 3 C or Elective 1
MH 26- EC 20 U 10 ROTC or	0 Great Books I	EH MH CTS U ROTO	221 Great Books II	MH HHP U PE	376 Surv. Exc
***			JUNIOR YEAR		
MH Ele FED 30 EH Ad	3 Elem. Group Theory 3 active	MH MH EM FED	567 Probability Theory       3         Computer Sci.       3         200 Ed. Media       2         350 Cult. Fnd.*       5	MH MH CCP CTD CTR	
			SENIOR YEAR		
CTS 40 FED 40	8 Geometry 5 2/404 Tch. Math* 3 0 Meas. Eval.* 5 11 Org. Adm.* 2	MH CTS Electi MH	Elective	CTS	425 Intern*
			TOTAL HOURS 204		

TOTAL HOURS - 204

# Prerequisite Admission to Teacher Education.

# Curriculum in Mathematics (Middle School)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. Core History (p. 39) MH 161 An. Geom. & Calc. Core Science (p. 39) ROTC or Elective	5 Core Fine Arts (p. 39)	PA         Ethics (p. 39)         5           Core History (p. 39)         3           MH         163 An. Geom. & Calc.         5           CTS         204 Comp. Prog         3           ROTC or Elective         1
	SOPHOMORE YEAR	
EH 220 Great Books I	5 MH 265 Dif. Equations	RSE 376 Surv. Exc. 5 MH 337 Lin. Algebra 5 HHP 195 Hith. Sci. 2 U 103 Individual & Society 3 PE 2 ROTC or Elective 1
	JUNIOR YEAR	
MH 333 Elem. Group Theory EH Adv. Comp. (p. 39) FED 300 Ed. Psych	5 MH Computer Sci	MH 301 Hist. Math 3 MH Elective 5 CCP 322 Hum. Rel. 2 CTD 401 Tch, Math 4 CTR 571 Reading 5
	SENIOR YEAR	
MH 538 Geometry	3 CTS 403 Tch. Math*	CTS 425 Intern*

Prerequisite Admission to Teacher Education.

## Curriculum in Biology - Chemistry

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
EH U CH CH BI ROTO	110 Eng. Comp. 5 101 Soc., Cult. & Environ. 3 103 Fund, Chem. J 4 103t Gen. Chem. Lab 1 101 Prin. of Biology 5 C or Elective 1	U CH CH BI CTS	Fine Arts (p. 39)	CH CH BI	Math (p. 39)
			SOPHOMORE YEAR		
Core HHP EM	207 Organic     5       Y Physiolgy     5       History (p. 39)     3       195 Hith. Sci     2       200 Ed. Media     2       2 C or Elective     1	EH	208 Organic 5 300 Genetics 5 History (p. 39) 3 220 Great Books 1 5 C or Elective 1	EH	200 Econ. I
			JUNIOR YEAR		
CH BY/Z RSE CTS	518 Biochem. 5 Y 300-500 5 376 Surv. Exc. 5 420 Sec. School 5	CH BY/Z EH FED	300-500	BY/	300-500
			SENIOR YEAR		
PS CTS CCP FED	206 Physics II	PS GTS EDL GTR	207 Physics III	CTS	\$ 425 Intern*

TOTAL HOURS — 219
Prerequisite Admission to Teacher Education.

## Curriculum in Biology - English

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 Core History (p. 39) 3 MH 160 Pre-Cal. w/Trig. 5 PE 2 CTS 102 Onentation 1 BOTC or Elective 1	CH 103 Chemistry 4 CH 103L Gen. Chem. Lab 1 Core History (p. 39) 3 BI 101 Prin. of Biol. 5 Core Fine Arts (p. 39) 3 HHP 195 Hilth. Sci. 2	CH 104 Chemistry 4 CH 104LChe, Lab 1 Core History (p. 39) 3 BI 102 Plant Biol 5 PA Ethics (p. 39) 5 ROTC or Elective 1
- i-tuning and a second	ROTC or Elective 1	700 000 000 000 000 000 000 000 000 000
	SOPHOMORE YEAR	
EH 220 Great Books I	EH 221 Great Books II	CH Or Chem. 5 RSE 376 Surv. Exc. 5 BY/ZY300-400 5 U 103 Individual & Society 3 ROTC or Elective 1
HOTO OF ENGINEE CO.	JUNIOR YEAR	
EH 400 Adv. Comp. 5 ZY/BY Physiology 5 CTS 501 Lang. Study 5 FED 350 Cull. Fnd* 5	EH     470/471 Shakespeare     5       BY/ZY 300-500     5       CTS     401 Tech Sci.*     3       EM     200 Ed. Media     2	CTS 420 Sec. School
	SENIOR YEAR	
CTS 502 Rhet. Comp	EH 400-500 5 CTS 411/412/413 Teaching 6 FED 400 Meas. Eval. 5 CTS 410 Prog. in Sci. 3 TOTAL HOURS — 218	CTS 425 Intern*

Prerequisite Admission to Teacher Education.

# Curriculum in Biology - Foreign Language **

	FRESHMAN TEAR	
First Quarter	Second Quarter	Third Quarter
FR/SP/GR 101	FR/SP/GR 102	U 103 Individual & Society
Bi 101 Prin. Biol	U 102 Political Economy	BI 103 Animal Biol
CTS 102 Orientation 1	HHP 195 Hith. Sci2	ROTC or Elective1

	SOPHOMORE YEAR	
FRISP/GR 201 4-5 EC 200 Econ. I 5 Core History (p. 39) 3 Core Philosophy (p. 39) 5 PE 2 ROTC or Elective 1	FR/SP/GR 202 4-5 EH 220 Great Books I 5 Core History (p. 39) 3 CH 104 Chemistry 5 Core Fine Arts (p. 39) 3 ROTC or Elective 1	FR/SP/GR 203 4-5 EH 221 Great Books II 5 Core History (p. 39) 3 ZY/BYPhysiology 5 ROTC or Elective 1
	JUNIOR YEAR	
FRISP/GR Composition       3         ZY       300 Genetics       5         FED       300 Ed. Psych       5         EM       200 Ed. Media       2         CH       Organic       5         ROTC or Elective       1	FR/SP/GR Conversation 3 BY/ZY300-500 5 CTS 420 Sec. School 5 CQP 322 Hum, Rel. 2 RSE 376 Surv. Exc. 5	FR/SP/GR Civilization
FL 300-500 5-6  BY/ZY300-500 5  CTS 406 Tchg Sd.' 3  CTS 410 Prog. FL' 3  FED 400 Meas. Eval.* 5	FL 300-500 5-6 CTR 571 Reading* 5 CTS 410 Prog. Sci.* 3 CTS 405 Tchg. FL* 3 EDL 401 Org. Adm.* 2 TOTAL HOURS — 236	CTS 425 Intern*

Prerequisite Admission to Teacher Education.

# Curriculum in Biology - Social Science **

	FRESHMAN YEAR	
First Quarter EH 110 Eng. comp. 5 U 101 Soc., Cult. & Environ. 3 Core History (p. 39) 3 Bi 101 Biology 5 PE 2 ROTC or Elective 1	Second Quarter   CH   103 Fund. Chem.   1	Third Quarter  CH 104 Fund. Chem. II
NOODOO OO O		1181 F. F. STONIA
CH Organic	SOPHOMORE YEAR   27   250 Anatomy	ZY     251 Physiology     5       Social Science Option     5       FED     300 Ed. Psych     5       EH     221 Great Books II     5       ROTC or Elective     1
ZY     300 Genetics     5       Social Science Option     5       CTS     420 Sec. Schol     5       RSE     376 Surv. Exc     5	JUNIOR YEAR  BY/ZY300-500	BY/ZY300-500
	SENIOR YEAR	
Social Science Option         5           FED         400 Eval. Meas.*         5           CTS         405 Tchg. SS*         3           CTS         405 Tchg. Sci.*         3           CCP         322 Hum. Rel.         2	Social Science Option         5           EDL         401 Org. Adm. Ed."         2           CTS         410 Prg. SS"         3           CTS         410 Prg. Sci."         3           CTR         571 Reading"         5	CTS 425 Intern*

### TOTAL HOURS BIOLOGY-ECONOMICS - 228

## TOTAL HOURS BIOLOGY-SOCIAL SCIENCE OPTION — 233

# Curriculum in Chemistry - Social Science **

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc., Cult, & Environ. 3 Core History (p. 39) 3 CH 103 Fund. Chem. I 4 CH 103LGen. Chem. Lab 1	Core Fine Arts (p. 39)         3           U         102 Political Economy         3           Core History (p. 39)         3           CH         104 Fund. Chem. II         4           CH         104 Gen. Chem. Lab         1	EM 200 Ed. Media 2 U 103 Individual & Society 3 Core History (p. 39) 3 CH 105 Fund. Chem. III 4 CH 105 LGen. Chem. lab 1
PE2 ROTC or Elective1	Core Math (p. 39)	HHP 195 Hith. Sci

[&]quot; Options: French, German, Spanish

Prerequisite Admission to Teacher Education.

Options: Economics, Geography, History, Political Science, Psychology, Sociology.

CH         207 Organic         5           Social Science Option         5           EC         200 Econ. I         5           Core Philosophy (p. 39)         5           ROTC or Elective         1	SOPHOMORE YEAR   5   5   5   5   5   5   5   5   5	Natural Science         5           Social Science Option         5           FED 300 Ed. Psych         5           EH 221 Great Books II         5           ROTC or Elective         1
110.10.01.20012	JUNIOR YEAR	
CH         518 Biochemistry         5           Social Science Option         5           CTS         420 Sec. School         5           RSE         376 Surv. Exc.         5           CCP         322 Hum. Rel."         2	CH 300-500	CH 300-500 5 Social Science Opton 5 CTS 401 Tech. Sci. 3 CTS 421 Soc. Sci. 5 PS 205 Physics I 4
Social Science Option         5           FED         400 Eval. Meas.*         5           CTS         405 Tchg. SS*         3           CTS         405 Tchg. Sci*         3           PS         206 Physics II         4	Social Science Option   5	CTS 425 Intern*

## TOTAL HOURS CHEMISTRY-ECONOMICS - 230

#### TOTAL HOURS CHEMISTRY-SOCIAL SCIENCE OPTION — 235

- Prerequisite Admission to Teacher Education.
- ** Options: Economics, Geography, History, Political Science, Psychology, Sociology.

## Curriculum in Chemistry-Foreign Language **

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
FR/SP/GR 101	FR/SP/GR 102	FR/SP/GR 103
	SOPHOMORE YEAR	
FR/SP/GR 201	FR/SP/GR 202	FR/SP/GR 203
	JUNIOR YEAR	
FR/SP/GR Composition	FR/SP/GR Conversation       3         PS       205 Physics I       4         CTS       401 Tech. Soi.       3         CCP       322 Hum. Rel.*       2         FED       350 Cult. Fnd.*       5         EDL       401 Org. Adm.*       2         EM       200 Ed. Media       2	PR/SP/GR Civilization 3 PS 206 Physics II 4 CTS 405 Tchg. FL* 3 FED 400 Meas* 5 CTS 410 Prog. FL* 3 CH 300-500 5
	SENIOR YEAR FL 300-500 5-6	CTS 425 Intem* 15
FL 300-500 5-6 PS 207 Physics III 4 CH 300-500 5 CTS 410 Prog. Sci. 3 Science 5	FL 300-500 5-6 CTR 571 Reading* 5 CH 518 Biochem 5 CTS 405 Tchg. Sci. 3 PE 2 TOTAL HOURS — 238	G15 420 INTERN TELEVISION TO THE PARTY OF TH
* Promoulette Admineion to Tosc	her Education	

#### Prerequisite Admission to Teacher Education.

## Curriculum in English - Chemistry

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp5	Core Philosophy (p. 39)5	Natural Science5
Core History (p. 39) 3	Core History (p. 39) 3	Core History (p. 39)
Core Math (p. 39)	Core Fine Arts (p. 39) 3	HHP 195 Hlth. Sci
CH 103 Fund. Chem. I		CH 105 Fund. Chem. III 4
CH 103LGen. Chem. Lab 1	CH 104LGen. Chem. Lab	CH 105LGen. Chem. Lab 1
CTS 102 Orientation1	PE2	EM 200 Ed. Media2
ROTC or Elective1	ROTC or Elective1	ROTC or Elective1

[&]quot; Options: French, German, Spanish.

			SOPHOMORE YEAR		
EH	220 Great Books I 5	EH	221 Great Books II	CTS	420 Sec. School5
CH	207 Organic 5	CH	208 Organic 5	PS	206 Physics II 4
EC	200 Econ. I 5	PS	205 Physics I4	FED	300 Ed. Psych
U	101 Soc., Cult. & Environ 3	U	102 Political Economy 3	U	103 Individual & Society 3
ROTO	C or Elective 1	ROTO	C or Elective 1	ROT	C or Elective1
			JUNIOR YEAR		
EH	400 Adv. Comp 5	EH	470/471 Shakespeare5	EH.	400-500 5
CH	510 Biochem 5	CH	300-500 5	CH	300-5003
CTS	501 Lang. Study 5	RSE	376 Surv. Exc5	CTR	
PS	207 Physics III 4	CTS	405 Tchg. Sci."	CCP	322 Hum, Rel.*2
			mioronomonomonomonomini	CTS	401 Tech Sci.* 3
			SENIOR YEAR		
CTS	502 Rhet. Comp 5	EH	400-500 5	CTS	425 Intem*15
FED	350 Cult. Fnd.*	CTS	411/412/413 Teaching * 6		
CTR	576 Rdg. Adol 5	EDL	401 Org. Adm.*		
CTS	410 Prog. Sci.*	FED	400 Meas. Eval."		
			TOTAL HOURS - 220		

Prerequisite Admission to Teacher Education.

# Curriculum in English - Foreign Language **

### FRESHMAN YEAR

First Quarter	Second Quarter	Third Quarter
FR/SP/GR 101 5	FR/SP/GR 102 5	FR/SP/GR 1035
EH 110 Eng. Comp 5	Core Science (p. 39)	Core Science (p. 39)5
U 101 Soc., Cult. & Environ 3	U 102 Political Economy 3	U 103 Individual & Society 3
HHP 195 Hith. Sci	Core Philosophy (p. 39) 5	CTS 102 Orientation1
Core Fine Arts (p. 39)	ROTC or Elective1	Core Math (p. 39)5
ROTC or Elective		ROTC or Elective1
	SOPHOMORE YEAR	
FR/SP/GR 201 4-5	FR/SP/GR 202 4-5	FR/SP/GR 203 4-5
EH 220 Great Books I	EH 221 Great Books II5	RSE 376 Surv. Exc5
Core History (p. 39)	Core History (p. 39)	Core History (p. 39)3
EC 200 Econ. 1	Science 5	FED 300 Ed. Psych
ROTC or Elective	ROTC or Elective 1	ROTC or Elective1
7010 of Elective		
	JUNIOR YEAR	
FR/SP/GR Composition 3	FR/SP/GR Conversation 3	FR/SP/GR Civilization3
CTS 501 Lang Study 5	EH 400 Adv. Comp 5	EH 470/471 Shakespeare 5
CTS 502 Rhet. Comp 5	FED 350 Cult. Fnd."	CTR 571 Reading*5
CTS 420 Sec. School 5	PE2	CTS 405 Tchg. FL*3
EM 200 Ed. Media 2	CCP 322 Hum. Rel.*2	EDL 401 Org. Adm."2
	SENIOR YEAR	
FL 300-500 5-6	FL 300-500 5-6	CTS 425 Intem* 15
EH 400-500 5	GTS 410 Prog. FL*3	
FED 400 Meas.* 5	CTS 411/412/413'6	***************************************
CTR 576 Rdg. Adol.* 5	EH 400-500 5	***************************************
	TOTAL HOURS — 223	

Prerequisite Admission to Teacher Education. Options: French, German, Spanish.

# Curriculum in English - Social Science **

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp 5	Core Philosophy (p. 39) 5	Core Fine Arts (p. 39)3
Core History (p. 39)	Core History (p. 39)	Core History (p. 39)3
Core Science (p. 39) 5	Core Science (p. 39)5	Science5
PE2	Core Math (p. 39) 5	U 101 Soc., Cult. & Environ 3
ROTC or Elective1	ROTC or Elective 1	HHP 195 Hlth. Sci
***************************************	i and the second and	CTS 102 Orientation1
	ADDRESS OF THE PROPERTY OF THE	ROTG or Elective1
	SOPHOMORE YEAR	
EH 220 Great Books I 5	EH 221 Great Books II5	EH 470/471 Shakespeare 5
Social Science Option5	Social Science Option5	Social Science Option 5
EC 200 Econ. 1	EM 200 Ed. Media2	FED 300 Ed. Psych 5
U 101 Soc., Cult. & Environ 3	U 102 Political Economy 3	RSE 376 Surv. Exc5
ROTC or Elective 1	ROTC or Elective 1	ROTC or Elective1
	JUNIOR YEAR	
EH 400 Adv. Comp 5	EH 400-5005	EH 400-5005
CTS 420 Sec. School	Social Science Option5	Social Science Option 5
CTS 501 Lang. Study 5	CTR 571 Reading*5	FED 350 Cult. Fnd.'5
CTS 502 Rhet Comp	CCP 322 Hum. Rel.*	Soc. Sci. Option5
The same and the s	EDL. 410 Org. Adm.*2	***************************************

#### SENIOR YEAR

Social Science Option	5	Social Science Option5CTS 425 Intern*	15	
		CTS 411/412/413*6		- UNION CONTROL CONTRO
CTS 405 Tchg SS*	3.	CTS 410 Prog. SS*		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
CTR 576 Rdg. Adol.*	5	FED 400 Meas. Eval.*5		

#### TOTAL HOURS ENGLISH-ECONOMICS - 215

#### TOTAL HOURS ENGLISH-SOCIAL SCIENCE OPTION - 220

Prerequisite Admission to Teacher Education.

Options: Economics, Geography, History, Political Science, Psychology, Sociology.

## Curriculum for Dual Foreign Language ***

#### FRESHMAN YEAR

	T THEOTHER THE THE	
First Quarter	Second Quarter	Third Quarter
FR/SP/GR 101 5	FR/SP/GR 102 5	FR/SP/GR 1035
FR/SP/GR 201** 4-5	FR/SP/GR 202	FR/SP/GR 203 4-5
EH 110 Eng. Comp 5	Core Science (p. 39)5	Core Science (p. 39)
U 101 Soc., Cult. & Environ 3	U 102 Political Economy 3	U 103 Individual & Society 3
CTS 102 Orientation1	HHP 195 Hith. Sci2	ROTC or Elective 1
ROTC or Elective 1	ROTC or Elective 1	
	SOPHOMORE YEAR	
FR/SP/GR 201 4-5	FR/SP/GR 202 4-5	FR/SP/GR 203 4-5
FR301/SP303/GR3013	FR302/SP304/GR3023	FR303/SP310/GR3033
EH 220 Great Books I 5	EH 221 Great Books II	EC 200 Econ 1 5
Core History (p. 39) 3	Core History (p. 39) 3	Core History (p. 39) 3
Core Fine Arts (p. 39) 3	EM 200 Ed. Media2	FED 300 Ed. Psych 5
ROTC or Elective 1	ROTC or Elective 1	ROTC or Elective 1
	JUNIOR YEAR	
FR/SP/GR Composition 3	FR/SP/GR Conversation	FR/SP/GR Civilization 3
FL 300-500 3	FL 300-500 3-6	FL 300-500 3
RSE 376 Surv. Exc 5	CTS 420 Sec. School5	FED 400 Meas. Eval,* 5
PE2	FED 350 Cult. Fnd. *5	CCP 322 Hum. Rel.* 2
EH Adv. Comp. (p. 39) 5	ii ii kas irrijas kastas kastas kastas kastas kastas k	Science5
	SENIOR YEAR	
FL 300-5003	FL 300-500 6	CTS 425 Intern*
CTS 410 Prog. FL* 3	CTS 405 Tchg. FL 1	topulation to the second of th
EDL 401 Org. Adm.*	CTR 571 Reading 1	10010101010101010101010101010101
Core Philosophy (p. 39) 5	200000000000000000000000000000000000000	
Core Math (p. 39) 5	(interested the second section of the	
	manage transport to the same	

#### TOTAL HOURS - 235

Prerequisite Admission to Teacher Education.
 Assumes Advanced Placement Credit in one language (15 hours).
 Options: French, German, Spanish.

## Curriculum in Foreign Language - Social Science

#### FRESHMAN YEAR

First Quarter	Second Quarter	Third Quarter
FR/SP/GR 101 5	FR/SP/GR 102 5	FR/SP/GR 1035
EH 110 Eng. Comp 5	Core Science (p. 39)5	Core Science (p. 39)5
U 101 Soc., Cult. & Environ3	U 102 Polit Econ	U 103 Individual & Society 3
HHP 195 Hlth. Sci	Core Philosophy (p. 39)5	CTS 102 Orientation 1
Core Fine Arts (p. 39)	ROTC or Elective 1	Core Math (p. 39)
	NOTO OF Elective amountaining a	ROTC or Elective1
ROTC or Elective1		NOTO DE CREGITO
	SOPHOMORE YEAR	
FR/SP/GR 201 4-5	FR/SP/GR 202 4-5	FR/SP/GR 203 4-5
EH 220 Great Books I 5	EH 221 Great Books II	Social Science Option
Core History (p. 39)	Core History (p. 39) 3	FED 300 Ed. Psych 5
EC 200 Econ. I	Social Science Option5	RSE 376 Surv. Exc5
EM 200 Ed. Media2	PE2	ROTC or Elective1
ROTC or Elective 1	ROTC or Elective 1	***************************************
	JUNIOR YEAR	
FR/SP/GR Composition	FR/SP/GR Conversation	FR/SP/GR Civilization 3
Social Science Option 5	Social Science Option5	Social Science Option 10
CTS 420 Sec. School 5	CCP 322 Hum. Rel.*	FED 400 Meas.*5
EH Adv. Comp. (p. 39) 5	CTS 405 Tchq. FL*3	CTS 410 Prog. FL*3
Core History (p. 39)	FED 350 Cult. Fnd.*5	
Core ristory (p. 55) minimum.	EDL 401 Org. Adm2	

FL	300-500 3	FL	300-500 6-9	CTS	425 Intern*
C	rs 421 SS Conc 5	CTR	571 Reading*5		
Sc	cial Science Option 5	Social	Science Option5		
C	S 410 Prog. SS* 3	CTS	405 Tchg. SS*3		.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
S	tence		tagina a managa a man		10400000000000000000000000000000000000

## TOTAL HOURS FL-ECONOMICS — 233

TOTAL HOURS FL-SOCIAL SCIENCE OPTION — 238
Prerequisite Admission to Teacher Education.

## **Curriculum in Mathematics - Biology**

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng Comp. 5 Core History (p. 39) 3 MH 161 An Geom. & Calc. 5 BI 101 Principles 5 CTS 102 Orientation 1 ROTC or Elective 1	PA     Ethics (p. 39)     5       Core History (p. 39)     3       MH     162 An. Geom. & Calc.     5       BI     102 Plant Biol.     5       HHP     195 Hith. Sol.     2       ROTC or Elective     1	CTS 204 Comp. Prog
F1	SOPHOMORE YEAR	POT 000 0 0 0
EH 220 Great Books I 5 CH 103 Fund. Chem. I 4 CH 103 LGen. Chem. Lab 1 Core Fine Arts (p. 39) 3 U 101 Soc., Cult, & Environ. 3 MH 264 An. Geom. & Calc. 5  ZY Physiology 5 CTS 420 Sec. School 5 EC 200 Econ. I 5	EH 221 Great Books II 5 CH 104 Fund. Chem. II 4 CH 104 LGen. Chem. Lab 1 EM 200 Ed. Media 2 U 102 Political Economy 3 MH 265 Dif. Equat. 3 PE 2 ROTC or Elective 1 JUNIOR YEAR ZY 300 Genetics 5 MH 333 Elem. Group Theory 3 CTR 571 Reading' 5	RSE 376 Surv. Exc. 5 CH 203/207 Organio. 5 MH 337 Lin. Algebra 5 FED 300 Ed. Psych. 5 U 103 Individual & Society 3 ROTC or Elective 1  BY/ZY 300-500 5 MH 301 History of Math 3 FED 350 Cult. Fnd. 5
EH Adv. Comp. (p. 39) 5	CCP 322 Hum. Rel.*2	CTS 401 Tech, Sci
ROTC or Elective1	EDL 401 Org. Adm. *2	FED 400 Meas. Eval.* 5
	SENIOR YEAR	
MH 538 Geometry 5 BY/ZY 300-500 5 CTD 401 Tch. Math* 4 CTS 405 Tchg. Sci.* 3	MH     567 Probability Theory     3       BY/ZY 300-500     5       CTS     403 Tch. Math*     3       CTS     410 Prg. Sci. *     3       MH     Elective     3	CTS 425 Intern*
	TOTAL HOURS - 232	

Prerequisite Admission to Teacher Education.

# Curriculum in Mathematics - Chemistry

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH     110 Eng. Comp.     5       Core History (p. 39)     3       MH     161 An. Geom. & Calc.     5       CH     103 Fund. Chem. I     4       CH     103LGen. Chem. Lab     1       CTS     102 Orientation     1	PA         Ethics (p. 39)         5           Core History         3           MH         162 An. Geom. & Calc.         5           CH         104 Fund. Chem. II         4           CH         104LGen. Chem. Lab         1           HHP         195 Hith. Sci.         2	Natural Science
ROTC or Elective 1	ROTC or Elective	ROTC or Elective1
EH 220 Great Books I 5 PS 205 Physics I 4 EC 200 Econ. I 5 U 101 Soc., Cult. & Environ, 3 MH 264 Calculus IV 5	EH 221 Great Books II 5 PS 206 Physics II 4 EM 200 Ed. Media 2 U 102 Political Economy 3 MH 265 Dif. Equat. 3 PE 2 ROTC or Elective 1  JUNIOR YEAR	RSE 376 Surv. Exc. 5 PS 207 Physics III 4 FED 300 Ed. Psych. 5 U 103 Individual & Society 3 MH 337 Lin. Algebra 5 ROTC or Elective 1
CH         207 Organic         5           CTS         420 Sec. School         5           Core Fine Arts (p. 39)         3           EH         Adv. Comp.         5           ROTC or Elective         1	CH 208 Organic 5 MH 333 Elem. Group Theory 3 CTR 571 Reading 5 CCP 322 Hum. Rel. 2 EDL 401 Org. Adm. 2	CH 518 Blochem. 5 MH 301 Hist. Math 3 FED 350 Cult, Fnd. 5 CTS 401 Tech. Sci. 3 FED 400 Meas. Eval. 5

			SENIOR YEAR		
МН	538 Geometry 5	MH	567 Probability Theory 3	CTS	425 Intern' 15
CH	300-500 5	CH	300-5005		
CTD	401 Tch. Math * 4	CTS	403 Tch. Math*3		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
CTS	405 Tchg. Sci. *	CTS	410 Prg. Sci. *		
			TOTAL HOURS - 233		

## Curriculum in Mathematics - English

	THE PERSON NAMED IN COLUMN 1	Total Control
	FRESHMAN YEAR	The last Country
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp	5 Core Science (p. 39)	Core Science (p. 39) 5
Core History (p. 39)		Core History (p. 39)
MH 161 An. Geom. & Calc		MH 163 An. Geom. & Calc 5
PE		PA Ethics (p. 39)
CTS 102 Orientation	1 HHP 195 Hith, Science	ROTC or Elective1
ROTC or Elective	1 ROTC or Elective 1	
11010.0	SOPHOMORE YEAR	
EH 220 Great Books I		RSE 376 Surv. Exc 5
MH 264 Calculus IV	To The Cold English and the Co	MH 337 Lin Algebra 5
EC 200 Econ. I		CTS 204 Comp. Prog 3
U 101 Soc., Cult. & Environ		U 103 Individual & Society 3
ROTC or Elective	1 ROTC or Elective 1	ROTC or Elective1
110 10 01 = 00111	JUNIOR YEAR	
EH 400 Adv. Comp	5 EH 470/471 Shakespeare	CTS 420 Sec. School 5
MH 333 Elem. Group Theory		MH 301 Hist. Math3
CTS 501 Lang. Study		CTR 571 Reading*5
CTS 502 Rhet, Comp.		CCP 322 Hum, Rel.*
		CTD 401 Tch Math4
	SENIOR YEAR	
MH 538 Geometry	5 EH 400-500 5	CTS 425 Intem*
EH 400-500		National Commence of the Comme
CTR 576 Rdg. Adol.*		The section of the se
CTS 403 Tch. Math "		
	. MH Elective 3	.010)(0)(0)(0)(0)(0)(0)(0)(0)
	TOTAL HOURS — 213	

Prerequisite Admission to Teacher Education.

## Curriculum in Mathematics - Social Science **

## FRESHMAN YEAR Second Quarter Third Quarter First Quarter EH 110 Eng. Comp. 5 Core Science (p. 39) 5 Core Science (p. 39) 5 U 101 Soc., Cult. & Environ. 3 U 102 Political Economy 3 U 103 Individual & Society 3 Core History (p. 39) 3 MH 161 An. Geom. & Calc. 5 MH 162 An. Geom. & Calc. 5 MH 163 An. Geom. & Calc. 5 PE 2 HHP 195 Hilth. Sci. 2 CTS 204 Comp. Prog. 3 .... 1 ROTC or Elective ...... CTS 102 Orientation ...... 1 ROTG or Elective ..... ROTC or Elective ..... SOPHOMORE YEAR MH 264 Calculus IV 5 MH 265 Dif. Equat. 3 MH 337 Lin. Algebra 5 Social Science Option 5 Social Science Option 5 Social Science Option 5 EC 200 Econ. I 5 Core Fine Arts (p. 39) 3 FED 300 Ed. Psych 5 PA Ethics (p. 39) 5 EH 220 Great Books I 5 EH 221 Great Books II 5 ROTC or Elective 1 EM 200 Ed. Media 2 ROTC or Elective 1 ROTC or Elective ...... 1 JUNIOR YEAR MH 538 Geometry 5 MH 333 Elem. Group Theory 3 MH 301 Hist. Math 3 Social Science Option 5 Social Science Option 5 Social Science Option 5 CTS 420 Sec. School 5 CTR 571 Reading* 5 EH Adv. Comp. (p. 39) 5 RSE 376 Surv. Exc. 5 FED 350 Cult. Fnd.* 5 FED 400 Meas. Eval. 5 SENIOR YEAR Social Science Option ...... 5 CCP 322 Hum. Rel.* 2 MH 567 Probability Theory 3 CTS 405 Tchg. SS* 3 CTS 410 Prog. SS* 3

#### TOTAL HOURS MATHEMATICS - ECONOMICS — 223

## TOTAL HOURS MATHEMATICS - SOCIAL SCIENCE - 228

Prerequisite Admission to Teacher Education.

Prerequisite Admission to Teacher Education.

[&]quot; Options: Economics, Geography, History, Political Science, Psychology, Sociology.

## Curriculum in Mathematics - Physics

#### FRESHMAN YEAR

	First Quarter		Second Quarter		Third Quarter
EH	110 Eng. Comp 5	PA	Ethics (p. 39)5	Natu	ral Science
	History (p. 39)		History (p. 39)	Core	History (p. 39)
MH	161 An. Geom. & Calc 5	MH	162 An. Geom. & Calc 5	MH	163 An. Geom. & Calc 5
PE	2	CH	103 Fund. Chem. I	CH	104 Fun. Chem. II
	Fine Arts (p. 39) 3	CH	103L Gen. Chem. Lab	CH	104LGen. Chem. Lab
	102 Orientation	HHP	195 Hith. Sci	CTS	204 Comp. Prog3
	or Elective	7.75.75	or Elective		C or Elective 1
11031	S of Fredrike Therefore	1,100,100	SOPHOMORE YEAR		
and a		CH	221 Great Books II	DOE	376 Surv. Exc 5
EH.	220 Great Books I 5	EH		PS	222 Physics III
PS	220 Physics I 4	PS	221 Physics II4		300 Ed. Psych
EC	200 Econ. I 5	EM	200 Ed. Media	U	103 Individual & Society 3
(1	101 Soc. & Culture 3	U	102 Political Economy		337 Lin. Algebra 5
MH	264 Calculus IV 5	MH	269 Dif. Equat5	MH	C or Elective
		HOTO	C or Elective1	HOI	C of Elective
			JUNIOR YEAR		
EH	Adv. Comp. (p. 39) 5	PS	301 El. & Mag4	PS	302 Electronics 4
CTS	420 Sec. School	MH	333 Elem Group Theory 3	MH	301 Hist. Math3
MH	501 Cal. Vect 3	CTR	571 Reading *	FED	
PS	300 El. & Mag 4	CCP	322 Hum. Rel. *	CTS	401 Tech. Sci. 13
ROT	C or Elective1	EDL	401 Org. Adm. *	FED	400 Meas. Eval. * 5
			SENIOR YEAR		
MH	538 Geometry 5	MH	567 Probability Theory3	CTS	425 Intern* 15
PS	303 Optics 4	PS	Electives 8		
CTD	401 Tch Math* 4	CTS	403 Tch. Math * 3		
CTS	405 Tchg. Sci."	CTS	410 Prog. Sci. *3		nonononomentalinguality property
PS	Elective3				- suspense
			TOTAL LIGHTS 224		

TOTAL HOURS - 234

# Curriculum in Mathematics - Foreign Language ** Second Quarter

#### FRESHMAN YEAR

	First Quarter		Second Quarter		Third Quarter
	5 TO Eng. Comp		/GR 102 5 Science (p. 39) 5	Core	P/GR 103
	01 Soc., Cult. & Environ 3	U	102 Political Economy3	U	103 Individual & Society 3
	61 An. Geom. & Calc 5	MH	162 An. Geom. & Calc	MH	163 An. Geom. & Calc 5
	r Elective 1	HOTC	or Elective1		102 Orientation 1 C or Elective 1
			SOPHOMORE YEAR		
FR/SP/0	SR 201 4-5	FR/SF	/GR 202 4-5	FR/S	P/GR 203 4-5
	20 Great Books I 5	EH.	221 Great Books II 5	PA	Ethics (p. 39)5
C	ore History (p. 39)	Core h	History (p. 39)	EC	200 Econ. I
MH 2	64 Calculus IV 5	MH	265 Dif. Equat	MH	337 Lin. Algebra 5
HHP 1	95 Hith. Sci 2	EM	200 Ed. Media2		204 Comp. Prog3
ROTCO	r Elective 1	ROTO	or Elective 1	ROT	C or Elective1
			JUNIOR YEAR		
FR301/5	SP303/GR301 3	FR302	2/SP303/GR3023	FR3	03/SP310/GR3033
	33 Elem Group Theory 3	MH	567 Probability Theory 3	MH	301 Hist. Math3
	00 Ed. Psych 5	CTS	420 Sec. School5	CTD	
	story (p. 39)3	CCP	322 Hum. Rel.*2	FED	
	dv. Comp. (p. 39) 5	RSE	376 Surv. Exc 5	CTR	571 Reading*5
			SENIOR YEAR		
FL 3	00-500 3-6	FL	300-500 6	CTS	425 Intem* 15
	38 Geometry 5	Core	Fine Arts (p. 39)3		
	03 Tch. Math* 3	EDL	401 Org. Adm		
	05 Prog. FL' 3	CTS	410 Tchg, FL*		
	00 Meas, Eval.' 5	PE	2		
	***************************************	MHE	lective 3		

TOTAL HOURS - 231

Prerequisite Admission to Teacher Education

Prerequisite Admission to Teacher Education.
 Options: Economics, Geography, History, Political Science, Psychology, Sociology.

## Curriculum for Dual Social Sciences **

#### FRESHMAN YEAR

First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc. Cult. & Environ. 3 HHP 195 Hith. Sci. 2 Core Science (p. 39) 5 Core History (p. 39) 3 ROTC or Elective 1	Core Math (p. 39) 5 U 102 Political Economy 3 PE 2 Core Science (p. 39) 5 Core History (p. 39) 3 ROTC or Elective 1 SOPHOMORE YEAR	Core Philosophy (p. 39)         5           U         103 Individual & Society         3           CTS 102 Orientation         1           Science         5           Core History (p. 39)         3           ROTC or Elective         1
EH 220 Great Books I	EH 221 Great Books II	RSE 376 Surv. Exc
	JUNIOR YEAR	
Social Science Option         10           CTS         420 Sec. School         5           FED         300 Ed. Psych         5	Social Science Option	Social Science Option         10           CTR 571 Reading*         5           CTS 421 Soc. Sci.         5
	SENIOR YEAR	
Social Science Option         10           FED         400 Eval. Meas.*         5           EDL         401 Org. Adm.*         2           CTS         405 Tohg. SS*         3	Social Science Option	CTS 425 Intern*

#### TOTAL HOURS ECONOMICS-SOCIAL SCIENCE - 222

TWO FROM SOCIAL SCIENCE OPTION - 227

- Prerequisite Admission to Teacher Education.
- ** Options: Economics, Geography, History, Political Science, Psychology, Sociology.

## Health and Human Performance

## Curriculum in Physical Education

#### annound in the try ordan

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110/115 Eng. Comp 5 HY 101/121/U270 3	SM 101 Concepts Sci	MH 160 Pre-Cal. w/ Trig
HHP 100 Fund. Move 3	NFS 200 Nutr. & Hith	HHP 122 Tm. Sport I3
HHP 201 Hy. & Prin 3	HHP 120 Gymnastics 3	HHP 124 Tm. Sport II
HHP 102 Orientation1	PE 101 Phys. Fit. & App	HHP 211 Motor Dev3
ROTC or Elective 1	ROTC or Elective 1	ROTC or Elective1
	SOPHOMORE YEAR	
EH 220 Great Books I 5	EH 221 Great Books II	PA 101/102/218/2195
BI 101/105 5	EC 200 Econ. I 5	ZY 250 Anatomy 5
U 101 Soc., Cult. & Environ 3	U 102 Political Economy	U 103 Individual & Society 3
HHP 118 Ind. Act. I 1	Core Fine Arts (p. 39)3	HHP 119 Ind. Act. II
PE 135 Weight Trng 2	HHP 195 Hith, Sci2	HHP 121 Aquatics2
ROTC or Elective 1	ROTC or Elective1	ROTC or Elective1
	JUNIOR YEAR	
EH Adv. Comp. (p. 39) 5	ZY 251 Physiology5	FED 350 Cult. Fnd."
CCP 322 Hum Rel.*	FED 300 Ed. Psych5	RSE 376 Surv. Exc5
HHP 123 Dance	HHP 200 Tch. & Coach5	HHP 315 Kineslology4
HHP 416 Adapt Pe 3	HHP 413 Tch. PE Elem. *	HHP Elective4
HHP 412 Instr. Strategies in PE 1 3	***************************************	
	SENIOR YEAR	
HHP 414 Tch. PE Sec." 4	CTR 571 Reading*	HHP 425 Intern*
EDL 401 Org. Adm. Ed.* 2	FED 400 Meas. & Eval.*	1030010010101010101010101010101010101
HHP 426 Eval. & Meas.*	HHP 404 Athl. Injuries3	***********************************
HHP 429 Mtr. Lm. Pr 4	HHP 405 Phys. of Exercise 4	
HHP 494 First Ald 3		
EM 200 Ed. Media 2	***************************************	тонинскогологологологологолого

TOTAL HOURS - 210

Prerequisite Admission to Teacher Education.

# Rehabilitation and Special Education

## Curriculum in Early Childhood for the Handicapped

#### FRESHMAN YEAR

Fall Quarter		Winter Quarter		Spring Quarter
EH 110 or 115 Eng. Com HY 101 or 121		102 Intro. to Ethics	MH	101 Concepts of Science
PE Elective		/103101011011011011011011011011	2.0.0	Henrichmenter and the control of the
		SOPHOMORE YEAR		
EH 220 Great Books I U 102 Political Economy FED 300 Ed. Psych RSE 375 Intr. RSE	3 RSE 5 Core	200 Econ.	EH U FCD PG	221 Great Books II
		JUNIOR YEAR		
RSE 421S Ed. Diag. W EM 200 Ed. Media	2 FCD 5 FED	479S Meth. & Mtrls." # 5 301 Early & Mid. Ch. Dev 5 400 Eval. Meas." 5 302 Const. Number 3	RSE	588 Ed. Appr." #
	RSE	Summer Quarter 587 Par. Ed. Hand. Child 4		
		SENIOR YEAR		
RSE 495S Pract. (Inf/Pre) FED 350 Cult. Fnd.*	5 FCD 2 RSE 2 CTR	378 or 529	RSE	425S Intern* #
EH 400 Adv. Comp	5	TOTAL HOURS — 204		

Prerequisite Admission to Teacher Education.

** ROTC students: Six hours of ROTC electives. All others, COM & PG 212 are strongly recommended.

Taught for ECEH majors.

# Curriculum in Emotionally Conflicted

#### FRESHMAN YEAR

	1.0ms/immil fair.	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp	Core Science (p. 39)	Core Science (p. 39)
Josephinishinan management		THE THE PARTY OF T
EH 220 Great Books I	SOPHOMORE YEAR	EC 200 Econ.
THO TO OF ELECTRON MAINTAINS	JUNIOR YEAR	
EH Adv. Comp. (p. 39) 5 RSE 300 Curr. Ping.* 5 RSE 301 Curr. Ping.* 5 RSE 420 Org. Inst. 5	FED 350 Cult. Fnd.*	RSE 421 Ed. Diag
	SENIOR YEAR	
RSE 446 Dir. Ind. Study	RSE 586 Severe 3 RSE 479 Meth. Mtrls. 5 CTR 570/571* Reading 5 RSE 415/556 Tchg/Res 5 TOTAL HOURS — 204	ASE 425 Intern*

Prerequisite Admission to Teacher Education.

## Curriculum in Mental Retardation

#### FRESHMAN YEAR

First Quarter	Second Quarter	Third Quarter		
EH 110 Eng. Comp 5	Core Science (p. 39)5	Core Science (p. 39) 5		
U 101 Soc., Cult. & Environ, 3	U 102 Political Economy 3	U 103 Individual & Society 3		
Core Math (p. 39) 5	Core Philosophy (p. 39) 5	Core Fine Arts (p. 39)3		
PE 2	HHP 195 Hith. Sci2	CD 350 Intr. SP. Path 5		
ROTC or Elective 1	ROTC or Elective 1	RSE 102 Orientation1		
	RSE 104 Intr. Lab 1	ROTC or Elective1		

	SOPHOMORE YEAR	
EH     220 Great Books I     5       Core History (p. 39)     3       RSE     375 Intr. RSE     5       EM     200 Ed. Media     2       ROTC or Elective     1	EH 221 Great Books II 5 Core History (p. 39) 3 MH/SCI 5 RSE 377 Intr. MR 5 ROTC or Elective 1	EC 200 Econ. I
	JUNIOR YEAR	
EH Adv. Comp. (p. 39) 5 RSE 300 Curr. Ping.* 5 CTR 370 Reading 5 RSE 450 Spec. Topics 1	FED         350 Cult. Fnd.*         5           EDL         401 Org. Adm. Ed.*         2           RSE         378 Intr. BD         5           FED         400 Eval. Meas.*         5           RSE         450 Spec. Topics         1	RSE 421 Ed. Diag.     5       RSE 446 Dir. Ind. Study     4       RSE 537 Occ. Onent     5       RSE 499 Practicum     2       RSE 450 Spec. Topics     1
RSE 301 Curr. Ping." 5 RSE 420 Org. Inst. 5 CCP 322 Hum. Rel." 2 RSE 495 Practicum 2 RSE 585 Moderate MR 3 RSE 450 Spec. Topics 1	SENIOR YEAR           RSE 586 Severe         3           RSE 479 Melh. Mirls         5           CTR 570/571 Reading*         5           RSE 495 Practicum         2           RSE 450 Spec. Topics         1	ASE 425 Intern*

TOTAL HOURS - 204

# Vocational and Adult Education

# Curriculum in Agribusiness Education

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
VED PE	110 Eng. Comp	HHP	(p. 39)	Ag. E	(p, 39) 4 Lab (p, 39) 1 103 Individual & Society 3 Philosophy (p, 39) 5 Elective 5 C or Elective 1
BI/BY Core	220 Great Books I	Core	SOPHOMORE YEAR   221 Great Books II   5   200 An. Dairy Sci.   5   YElective   5   History (p. 39)   3   3   C or Elective   1	AY AEC Core Ag. E	210 Microcomp
			JUNIOR YEAR		× = = = = = = = = = = = = = = = = = = =
HF HF VED VED EM	221 Landscape     5       202 Fruit Veg.     5       408 Gen. Shop     3       404/406/407     3       200 Ed. Media     2	FED CCP Ag. E RSE VED	300 Ed. Psych	FED AEC EDL VED EH	501 Farm Mgt
			SENIOR YEAR		
VED VED ENT FED	414 Prog. Ag.*	CTR	lective	VED	425 Intern*

TOTAL HOURS - 217

## **Curriculum in Business Education**

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ. 3 Core Science (p. 39) 5 VED 102 Orientation 1 Core Fine Arts (p. 39) 3 ROTC or Elective 1	U 102 Political Economy	Core Math (p. 39) 5 U 103 Individual & Society 3 Science 5 H/P 195 Hilth. Sci. 2 EM 200 Ed. Media 2 ROTG or Elective 1
EH 220 Great Books I 5 EC 200 Econ. I 5 MN 207/EM 370 Comp 3 Core History (p. 39) 3 ROTC or Elective 1	EH 221 Great Books II 5 MT 241 Bus. Law 5 Core Philosophy (p. 39) 5 Core History (p. 39) 3 ROTC or Elective 1	AC 212 Accounting II

Prerequisite Admission to Teacher Education.

Prerequisite Admission to Teacher Education.

	JUNIOR YEAR	
VED 302 Adv. Kyb 5	EH 408 B&P Writ5	FED 350 Cult. Fnd.*
VED 312 Shand, Tr 5	GCP 322 Hum. Rel.*	FED 400 Meas. Eval.*
MN 310 Prin. Mgt	VED 346 Voc. Ed 3	VED 430 Adv. Info5
FI 340/FGD 323 3	VED 420 Info. Proc	VED/Bus. Elective
/1=0000100101010101010101010101010101010	EDL 401 Org. Adm."2	
	SENIOR YEAR	
VED 414 Prog. Bus."	VED 558 Coord. Supr	VED 425 Intern*
VED 415 Tchg. Bus.*	CTR 571 Reading*5	
VED 440 Elec. Off 5	VED 462/421 5-10	
VED 574 Org. Inst 5	VED/Bus. Elective 0-5	uniniminuminiminuminiminiminimini
	TOTAL HOURS — 211	

^{*} Prerequisite Admission to Teacher Education.

## Curriculum in Health Occupations

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ	COM Elective	Core Philosophy (p. 39)
	SOPHOMORE YEAR	
EH 220 Great Books   5 Core Math (p. 39) 5 Core Fine Arts (p. 39) 3 NF 200/358 3 ROTC or Elective 1	EH     221 Great Books II     5       EC     200 Econ. I     5       VED     348 Voc. Ed.     3       VED     475 Tech. Exp.     5       ROTC or Elective     1	EM     200 Ed. Media     2       FED     300 Ed. Psych     5       RSE     376 Surv. Exc.     5       VED     476 Tech. Exp.     5       ROTC or Elective     1
	JUNIOR YEAR	
VED         352 Med Term.         5           CCP         322 Hum. Rel.*         2           EDL         401 Org. Adm. Ed.*         2           EH         Adv. Comp. (p. 39)         5           VED         520 Spec. Nds.         5           VED         495 Practicum         2	VED         356 Hith. Deliv.         5           VED         478 Tech. Exp.         5           VED         479 Tech. Exp.         5           VED         586 Coord. Sprv.         5	VED 354 Hith. Crers. 5 FED 400 Meas. Eval.* 5 FED 350 Cult. Fnd.* 5 VED 477 Tech. Exper. 5
tien transfer and	SENIOR YEAR	VED ANTI-LINE
VED         414 Prog. Hll."         3           CTR         571 Reading"         5           VED         480 Tech. Exp.         5           VED         495 Practicum         5	VED 415 Tchg. Hith." 5 VED 462 Dir. Wk. 5 VED 495 Practicum 5 VED 574 Org. Instr. 5 TOTAL HOURS — 222	VED 425 Intern*

Prerequisite Admission to Teacher Education.

## Curriculum in Home Economics Education

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ. 3 Core Math (p. 39) 5 VED 102 Orientation 1 Core History (p. 39) 3 ROTC or Elective 1	BI 105 Persp. Biol	BI 107 Environ. Biol. 5 U 103 Individual & Society 3 NFS 200 Nutr. Hilth. 3 CA 115 Clothing 3 Core History (p. 39) 3 ROTC or Elective 1
	SOPHOMORE YEAR	
EH       220 Great Books II       5         EC       200 Econ. I       5         Physical Science       5         CA       222 Furnishings       4         ROTC or Elective       1	EH 221 Great Books II 5 CA 116 Art for Liv. 3 NFS 202 Prin. Food Pr. 5 FCD 200 Mgt. Consum. 4 ROTC or Elective 1	EM     200 Ed. Media     2       CA     206 Garment Str. & Lab     5       Core Fine Arts (p. 39)     3       RSE     376 Surv. Exc.     5       Core Philosophy (p. 39)     5       ROTC or Elective     1
	JUNIOR YEAR	
FED 300 Ed. Psych	FCD 308 Relationship Comp	FED 350 Cult. Fnd." 5 EDL 401 Org. Adm." 2 NFS 304 Quantity Fd. 5 CTR 571 Reading" 5

			SENIOR YEAR			
VED:	414 Prog HE* 3	VED.	415 Tchg. Home Ec.*	VED	425 Intem*1	B
VED	495 Practicum	VED	462 Dir. Wk		1-1	
CA	233 Res. Equip	FED	400 Meas. Eval.*			
FCD	467 Parent Ed 4	FCD	541 Fam. Fin Plng		- Parameter and the second sec	i.
			TOTAL HOURS - 217			

## Curriculum in Industrial Arts

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH     110 Eng. Comp.     5       U     101 Soc., Cult. & Environ.     3       Core Math (p. 39)     5       VED     102 Orientalion     1       Core History (p. 39)     3       ROTC or Elective     1	Core Science (p. 39)         5           U         102 Political Economy         3           PE         2           HHP 195 Hith. Sci.         2           Core History (p. 39)         3           ROTC or Elective         1	Core Philosophy         5           U         103 Individual & Society         3           IE         172 Graphics         3           COM Elective         3           Core History (p. 39)         3           ROTC or Elective         1
	SOPHOMORE YEAR	
EH 220 Great Books   5 Core Science (p. 39) 5 VED 400 Power Mech 3 EC 200 Econ.   5 ROTC or Elective 1  VED 404 Metals 3 VED 216 Plastics 2 VED 408 Gen. Shop 3	EH 221 Great Books II 5 Science 5 VED 301 Woodwkg 3 VED 401 Sm. Engines 3 ROTC or Elective 1  JUNIOR YEAR  VED 246 Inst. Drwg 3 RSE 376 Surv. Exc. 5 Major Elective 3	EM 200 Ed. Media 2 VED 457 Graph, Arts 3 VED 346 Voc. Ed. 3 VED 402 Auto. Const. 3 VED 406 Bidg. Const. 3 ROTC or Elective 1  VED 444 Envir. Syst. 3 VED 407 Electricity 3 CCP 322 Hum, Rel.* 2
EH Adv. Comp. (p. 39) 5	VED 405 School Shop3	CTR 571 Reading*5
FED 300 Ed. Psych 5	VED 409 Tchg. Electr	Major Electives
	SENIOR YEAR	
VED         442 Metalwkg.         3           FED         350 Cult. Fnd.*         5           AR         360 App. Arch.         3           EDL         401 Org. Adm. Ed.*         2	VED 414 Prog. Ind. Arts*	VED 425 Intern*
Major Electives 6	DIBIODOUMOHOHOHOHOHOHOHOH	)4001094004001001001001001001001010101010

#### TOTAL HOURS - 210

## Curriculum in Industrial Education

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ 3 Core Math (p. 39) 5 Core History (p. 39) 3 ROTC or Elective 1	Core Science (p. 39)         5           U         102 Political Economy         3           PE         2           HHP 195 Hith. Sci.         2           Core History (p. 39)         3           ROTC or Elective         1	Core Science (p. 39)         5           U         103 Individual & Society         3           VED 102 Orientation         1           COM Elective         3           Gore History (p. 39)         3           ROTC or Elective         1
	SOPHOMORE YEAR	
EH     220 Great Books I     5       Science     5       Major Option     5       Elective     2       ROTC or Elective     1       VED     466 Tchg. Grps     3       VED     510 Occ. Info     3       MN     310 Prin. Mgt     5	EH 221 Great Books II 5 EC 200 Econ. 1 5 Major Option 5 ROTC or Elective 1  JUNIOR YEAR  VED 346 Voc. Ed. 3 RSE 376 Surv. Exc. 5 MN 443 Labor Rel. 5 FED 300 Ed. Psych. 5	EM 200 Ed. Media 2 Core Philosophy (p. 39) 5 Major Option(s) 6 Core Fine Arts (p. 39) 3 ROTC or Elective 1  VED 462 Dir. Wk. Exp. 5 VED 405 Sch. Shop 3 CCP 322 Hum. Rel.* 2 CTR 571 Reading* 5
EH Adv. Comp. (p. 39)	FED 300 Ed. FSydt	EDL 401 Org. Adm Sch. *
200000000000000000000000000000000000000	SENIOR YEAR	PER 15 - OF THE TOTAL STATE OF THE PER S
VED 574 Org. Inst. Ti	VED 414 Prog. T&I*	VED 425 Intern*

Prerequisite Admission to Teacher Education.

Prerequisite Admission to Teacher Education.

Prerequisite Admission to Teacher Education.

# Curriculum in Marketing Education

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ. 3 Core Math (p. 39) 5 PE 2 VED 102 Onentation 1 ROTC or Elective 1	COM Elective         3           U         102 Political Economy         3           Core Science (p. 39)         5           HHP 195 Hith. Sci.         2           Core Fine Arts (p. 39)         3           ROTC or Elective         1	Core Philosophy (p. 39)
	SOPHOMORE YEAR	
EH 220 Great Books   5 Core History (p. 39) 3 EC 200 Econ   5 ACF 211/F1 340 4 HOTC or Elective 1	EH 221 Great Books II 5 Core History (p. 39) 3 EC 202 Econ. II 5 MT 241 Bus. Law** 5 ROTC or Elective 1	Science
	JUNIOR YEAR	
EC 350 Labor Econ." 5 VED 510 Ooc. Into 3 FED 300 Ed. Psych 5 RSE 376 Sury, Exc. 5	MN 310 Prin. Mgt	EH Adv. Comp. (p. 39) 5 VED 462 Dir. WK. Exp. 5 CTR 571 Reading* 5 EDL 401 Org. Adm.* 2 Elective 2
	SENIOR YEAR	
VED 414 Prog. DE* 3 MT 372 Transport** 5 MT 332 Mktg.** 5 FED 400 Meas. Eval.* 5	VED         415 Tchg. DE*         5           VED         558 Coord.         5           MT         333 Merch. Mgt         5           MT         347 Selling**         5	VED 425 Intern*
	TOTAL HOURS — 210	

Prerequisite Admission to Teacher Education

Or other course from approved program.

## Field Experiences

The Laboratory Experiences Program provides sequential learning opportunities in public school and community settings for students throughout the teacher preparation program. Laboratory experiences are provided primarily through the following programs: (1) Field Experience Program, (2) Extended Laboratory Experiences, (3) Cooperative Education Program and (4) Professional Internship.

The pre-teaching Field Experience Program provides an initial experience for all students as a prerequisite for admission to the Professional Teacher Education Program. This experience involves the students in planning and evaluating learning experiences, counseling, participating in pre-school conferences and faculty study, school and community meetings and involvement in actual teaching situations.

The Extended Laboratory Experiences Program is conducted concurrently with enrollment in professional education courses which provide experiences in the schools and communities.

The Cooperative Education Program provides laboratory experiences for certain students involved in the teacher preparation program on an alternating quarter arrangement with college attendance.

The Professional Internship is a full-time assignment in an off-campus school and community. Experiences include personal and professional contacts with phases of community life and the application of concepts, skills and knowledge the students have acquired in classroom situations.

The students enroll for 15 credit hours and devote a full quarter to the internship. No additional coursework, correspondence or regular, is permitted during the internship quarter. The program is divided into orientation, off-campus experience and evaluation. Students must be admitted to the Teacher Education Program prior to the Professional Internship and must have completed appropriate courses in their areas of specialization.

The Internship in N-12 Programs requires experience in elementary and secondary schools.

Other laboratory experiences for students are provided within the framework of courses in the Teacher Education Program.

# **Dual Objectives Program**

Students in other schools and colleges of the university who wish to complete requirements for graduation in an academic department and also to complete the degree requirements of the Teacher Education Program may pursue the dual objectives program. Students should inquire in their dean's office to determine if their college/school participates in the dual objectives program.

Students electing to pursue the dual objectives program will have an advisor in the academic department in which they are enrolled and an advisor in the College of Education. Advising students concerning the curriculum of the academic department, including the major and other requirements, will be the responsibility of the advisor in that department. The responsibility for advising students on matters concerning the Teacher Education Program will be that of the advisor in the College of Education. The quarterly course schedule of the students will be approved by both advisors. Information describing the dual objectives program is available in the Teacher Education Services Office of the College of Education in Haley Center and in the dean's office where the students are enrolled.

Students enrolled in the College of Education who desire to complete certification requirements in more than one teaching field will complete the curriculum in each field: general studies, teaching specialization and professional teacher education (including the internship).

Applications and specific information about the criteria for selection and admission to Teacher Education are available in the Teacher Education Services Office in Haley Center 3464.

## Programs, Non-Teaching

The following is a list of non-teaching curricula available in the College of Education. Programs appear by department.

## Health and Human Performance

Exercise Science. A non-teaching program to prepare students for research and graduate studies related to exercise sciences. This program does not require admission to Teacher Education. A senior paper (HHP 446) is required for graduation.

## Curriculum in Exercise Science

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
EH	110/115	PS	200 Fnds. Physics5	MH	1605
HY	101/121/J270 3	HY	102/122/U2713	HY	103/123/U2723
BI	101 or 105 5	BI	106 Hum. Biol	COM	1 100 Prof. Comm 3
HHP	102 Orientation 1	Core	Fine Arts (p. 39) 3	HHP	195 Hith Sci
PE	101 Physical Fitness	PE	Skill 2	PE	Skill
			SOPHOMORE YEAR		
EH	220 Great Books I	EH	221 Great Books II	PA	101/102/218/2195
ZY	250 Anatomy 5	ZY	251 Physiology5	EM	200 Ed. Media
U	101 Soc., Cult. & Environ 3	U	102 Political Economy3	U	103 Individual & Society 3
HHP	201 Fnd. of HHP 5	NFS	200 Nutr. & Hith	PG	212 Dev. Psych 5
PE	Fitness	PE	Fitness	ROT	C or Elective3
			JUNIOR YEAR		
EM	370 Microcomp 4	HHP	315 Kinesiology4	HHP	426 Eval. & Meas
EH	Adv. Comp. (p. 39)	HHP	405 Phys. of Exerc 4	HHP	495 Practicum
HHP	335 Sports Psych 4	HHP	396 Drug Use Abuse		r Electives
HHP	211 Motor Dev 3	Minor	Electives 6		C or Electives 3
		3.000			Elective
			SENIOR YEAR		
HHP	495 Practicum	HHP	495 Practicum2	HHP	446 Sr. Project
HHP	429 Mtr. Learning 4	HHP	416 Adaptive PE		505 Pr. Adult Fit4
HHP	404 or 494 3	HHP	Electives 3	HHP	Electives
HHP	Elective	Minor	Electives		r Elective
Minor			- Harden Andrews Control of the Cont		

TOTAL HOURS - 200

Health Promotion. A non-teaching program to prepare students to become health and fitness specialists for a variety of settings such as hospitals, corporate fitness centers, wellness centers and private/commercial health complexes. This program does not require admission to Teacher Education. However, a related internship (HHP 425) is an integral part of the professional preparation.

#### Curriculum in Health Promotion

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
EH	110/115 5	Comp	uter Elective	MH	160 5
HY	101/121/U270 3	HY	102/122/U271 3	HY	103/123/U2723
BI	101/105 5	BI	106 Hum, Biol	NFS	200 Nutr. & Hith 2
HHP	102 Orientation 1	COM	100 Prof. Comm	EM	200 Ed. Media
PE	Fitness	PE	Fitness 2	HHP	201 Fnd. of HHP5
		PE	101 Physical Fitness2		

	SOPHOMORE YEAR	
EH 220 Greal Books	EH 221 Great Books II	PA 101/102/218/219 5 Core Fine Arts (p. 39) 3 U 103 Individual & Society 3 GS Elective 2 HHP Hith. Sci. Elective 3 PE Elective 5
	JUNIOR YEAR	
GS Elective	HHP 426 Eval. & Meas	EH 400/401/404/408 5 HHP 400 Program 3 HHP Exer Soc Elective 4 Minor Elective 5
HHP         Option Area         4           HHP         Option Area         4           Minor Elective         5           Minor Elective         4	HHP	HHP 425 Intern

# Rehabilitation and Special Education

Rehabilitation Services Education. This non-teaching program does not require completion of the Professional Education Core.

## Curriculum in Rehabilitation Services

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ. 3 Core History (p. 39) 3 COM 100 Prof. Comm. 3 PE 2 ROTC or Elective 1	Core Science (p. 39)         5           U         102 Polit Econ.         3           Core History (p. 39)         3           Elective         5           ROTC or Elective         1	Core Science (p. 39)         5           U         103 Individual & Society         3           Core History (p. 39)         3           Core Philosophy (p. 39)         5           ROTC or Elective         1
THE STATE OF	SOPHOMORE YEAR	
EH 220 Great Books (	EH 221 Great Books II	Elective
	JUNIOR YEAR	
Elective	RSE         495 R Practicum         3           CCP         523 Med. Aspects         3           CCP         524 Comm. Resources         3           CCP         525 Adjustment         3           EH         Adv. Comp. (p. 39)         3	RSE 414 Assessment     3       RSE 537 Transition     5       RSE 495 R Practicum     2       RSE 446 Dir. Ind. Study     5       Elective     6
	SENIOR YEAR	
RSE 535 Voc. Eval. 5 RSE 538 Work Adjustment 5 RSE 495 R Practicum 3 Elective 5	RSE 495 R Practicum 2 RSE 510 Occ. Info. 3 RSE 536 Voc. Eval. 3 RSE 556R Rehab, Technology 4 RSE 415 Prof. Comm. 3	RSE 425 Intern

# Vocational and Adult Education

# Curriculum in Adult Education - Agriculture

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ. 3 Core Math (p. 39) 5 VED 102 Orientation 1	CH 103 Fund. Chem4	CH 104 Fund, Chem
BI 101 Prin. Biol. 5 ROTC or Elective 1	Core Fine Arts (p. 39)	ADS 200 A&D Sci

	SOPHOMORE YEAR	
EH 220 Great Books I 5	EH 221 Great Books II	HF 221 Landscp. Gard5
EC/AEC 200 Econ 5	Ag. Elective	Ag. Elective5
HF 202 Fruit & Veg	AY 200 Crop Prod5	FED 300/PG 212 5
Core History (p. 39) 3	AEC 200 Microcomputer3	ROTC or Elective1
ROTC or Elective	ROTC or Elective 1	***************************************
NOTO OF CIECUTE	JUNIOR YEAR	
		Ag. Elective5
AEC 301 Ag. Mkt 5		Ag. Elective
Ag. Elective5	VED 469 Comm. Prog5	Voc. Ed. Elective
VED 408 Gen. Shop 3	Ag. Elective 5	EH Adv. Comp. (p. 39)
VED 406 Bldg. Const 3	AND THE PROPERTY OF THE PROPER	
VED 466 Tch. OS Gr 3	STATE OF THE PROPERTY OF THE P	heiresteiteiteiteiteiteiteiteiteiteiteiteiteit
	SENIOR YEAR	
ENT 502 Entomology 5	VED 556 Lm. Res5	VED 425 Intern10
VED 513 Na. Adult. Ed 5	VED 415 Tch. Adult Ed5	
VED Elective 4	AEC 501 Farm Mgt5	
VED 450 Spec. Top 3	· · · · · · · · · · · · · · · · · · ·	romantonomomomomomomentum
	TOTAL HOURS - 204	
	TOTAL HOURS	
Curricul	um in Adult Education - Dis	stributive
	FRESHMAN YEAR	
		Third Constant
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp 5	EM 200 Ed. Media	Core Philosophy (p. 39)5
Core Math (p. 39) 5	Distrib. Elective 4	Elective5
U 101 Soc., Cult. & Environ 3	U 102 Polit Econ	U 103 Individual & Society 3
Core History (p. 39) 3	Core History (p. 39) 3	Core History (p. 39)3
VED 102 Orientation1	Core Fine Arts (p. 39)3	ROTG or Elective1
ROTC or Elective 1	ROTC or Elective 1	Helielistinistinistinistinistinisti
	SORHOMORE VEAR	

	OUT HOMOTIC TEAT	
EH 220 Great Books I	EH 221 Great Books II	VED 466 Tch. OS Gr3
Core Science (p. 39) 5		AC 211 Prin. Acct. I
EC 200 Econ. I	EC 202 Econ, II	MT 241 Bus. Law 1 5
ROTC or Elective 1	ROTC or Elective1	PG 212 Dev. Psych 5
		ROTC or Elective1
	JUNIOR YEAR	

SOPHOMORE YEAR

MN MT EM	310 Prin, Mgt	MT FED	347 Fund. Selling	MT VED	415 Tchg. Ad. Ed
EH	Adv. Comp. (p. 39) 5	VED	346 Voc. Ed 3	Distri	b. Elective3
			SENIOR YEAR		
	450 Sp. Top. AE		513 Nat. Adult Ed	VED	425 Intern
VED	556 Lm. Res 5	VED	104 Orientation Lab1		>>+++++++++++++++++++++++++++++++++++++
CCP	521 Counseling 4	VED	446 Dir. Ind. Study5		

TOTAL HOURS - 204

## Curriculum in Adult Education - Health Systems

First Quarter  EH 110 Eng. Comp	FRESHMAN YEAR   Second Quarter   HHP 195 Hith. Sci	Third Quarter  Core Philosophy (p. 39)
EH 220 Great Books I	SOPHOMORE YEAR	MT 241 Bus. Law
VED 556 Lmg. Res. 5 VED 466 Tch. OS Gr. 3 MN 310 Prin. Mgt. 5 Hith. Syst. Elective 5	JUNIOR YEAR           VED 450 Sp. Topics         3           VED 469 Comm. Prog.         5           VED 495 Practicum         2           VED 513 Nat. Adulf Ed.         5           VED 475 Tech. Exp.         0r           Hith. Syst. Elective         5	VED 462 Dir. Wk. Exp 5 VED 476 Tech. Exp or Hith. Syst. Elective 5 VED 477 Tech Exp or Hith. Syst. Elective 5 EH Adv. Comp. (p. 39) 5

	SENIOR YEAR	
And the same of the same of		VED 425 Intern
VED 478 Tech. Exp or	VED 480 Tech. Exp or	VED 425 INBIT
Hith. Syst. Elective 5	Hith, Syst. Elective	Anti-Anti-Anti-Anti-Anti-Anti-Anti-Anti-
VED 479 Tech Exp or	VED 104 Orient. Lab1	
Hith, Syst. Elective	VED 495 Practicum3	
CCP 521 Counseling 4	Hith. Syst. Electives 8	***************************************
VED 495 Practicum 3		management and the second
YES 400 Flactically manners of	TOTAL HOURS — 204	
Curriculum	in Adult Education - Home	Economics
	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
	CA 116 Art for Living3	NFS/CA/FCD5
EH 110 Eng. Comp 5		U 103 Individual & Society 3
U 101 Soc., Cult. & Environ 3	U 102 Political Economy3	Core Science (p. 39)5
VED 102 Orientation1	Core Science (p. 39)5	
FCD 157 Fam. Hum. Dev 3	Elective 2	ROTC or Elective1
CA 115 Clothing & Culture 3	ROTC or Elective 1	(1)(0)(0)(0)(0)(0)(0)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)(1)
ROTC or Elective 1		
	SOPHOMORE YEAR	
Company to the	EH 220 Great Books I5	EH 221 Great Books II
Core Philosophy (p. 39) 5		Core History (p. 39)3
Core History (p. 39) 3	Core History (p. 39) 3	FED 300 Ed. Psych5
NFS/CA/FCD 8	Core Fine Arts (p. 39)3	
ROTC or Elective 1	NFS/CA/FCD6	NFS/CA/FCD4
September 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	ROTC or Elective 1	ROTC or Elective1
	JUNIOR YEAR	
and the first	VED 462 Dir. Wk. Exp5	EH Adv. Comp. (p. 39) 5
EM 370/570 4		VED 466 Tch. OS Gr
NFS/CA/FCD 12	CCP 521 Counseling4	
Delication beattern and the contraction of the cont	NFS/CA/FCD 7	Electives9
	SENIOR YEAR	
VED 495 Practicum 5	VED 415 Tchg. Adults5	VED 425 Intern10
	VED 104 Orient Lab1	VED 450 Sp. Topics
VED 469 Comm. Prog 5	VED 513 Nat. Adult Ed5	
VED 556 Lmg. Res 5	VED 513 Nat. Addit Ed	***************************************
Elective	Elective 4	melonomiumoumoumium
	TOTAL HOURS — 204	
0	ulum in Adult Education - T	ochnical
Curric		ecimical
	FRESHMAN YEAR	Third Quarter
First Quarter	Second Quarter	
EH 110 Eng. Comp 5	Elective 3	Core Science (p. 39) 5
Core Fine Arts (p. 39)		Core Philosophy5
U 101 Soc., Cult. & Environ 3		U 103 Individual & Society 3
Core History (p. 39)		Core History (p. 39)3
Elective		ROTC or Elective1
DOTO Flashin		
ROTC or Elective		
	SOPHOMORE YEAR	1000 110 000 1000
EH 220 Great Books I	EH 221 Great Books II5	VED 415 Tch. Adults5
Core Science (p. 39)	EM 370 Comp. App4	VED 450 Spec. Topics
VED 475-480		VED 475-480 or
Technical Elective		Technical Elective5
		VED 469 Comm. Prog 5
Elective		ROTC or Elective1
ROTC or Elective		TOTO DI LIGUITE INIMINISTRI
	JUNIOR YEAR	
VED 513 Nat. Adlt	FED 300 Ed. Psych5	FED 400 Meas. Eval 5
VED 475-480 0		VED 475-480 or
Technical Elective		Technical Elective5
		VED 520 Stu. Sp. Nds 5
VED 541 Dev. V Ed		EH Adv. Comp. (p. 39) 5
VED 466 Tch OS Gr		City Strips (p. 50) American
	SENIOR YEAR	
VED 591 Prob. Tchg	VED 556 Learn, Res 5	VED 425 Intern
VED 558 Coord		VED 446/495/462
VED 446/406/460		NO. 10. 10. 10. 10. 10. 10. 10. 10. 10. 10
VED 446/495/462	VED 446/495/462	
	VED 440/495/402	- mononomonomonomica de la companya del companya de la companya del companya de la companya de l

TOTAL HOURS - 204

## Curriculum in Adult Education - Training and Conference

	FRESHMAN YEAR		
First Quarter	Second Quarter	Third Quarter	
EH 110 Eng. Comp. 5 U 101 Soc., Cult. & Environ. 3 Core History (p. 39) 3 VED 102 Onentation 1 Core Math (p. 39) 5 ROTC or Elective 1	Core Fine Arts (p. 39)     3       U     102 Political Economy     3       Core History (p. 39)     3       EM     200 Ed. Media     2       JM     101 Newsp. Style     3       Elective     2       ROTC or Elective     1	Core Philosophy (p. 39) 5 U 103 Individual & Society 3 Core History (p. 39) 3 COM 141 Grp. Prob 5 ROTC or Elective 1	
	SOPHOMORE YEAR		
EH 220 Great Books   5 Core Science (p. 39) 5 MT 241 Bus. Law 5 ROTC or Elective 1	EH 221 Great Books II	VED 466 Tch. OS Gr	
	JUNIOR YEAR		
MN 310 Prin. Mgt	VED         469 Comm. Prog.         5           MN         342 Hum. Res. Mgt.         5           CCP         521 Counseling.         4           VED         495 Practicum.         3	VED 415 Tch Ad. Ed.         5           VED 556 Lmg. Res.         5           Elective Area Sp.         5           VED 495 Practicum         3	
	SENIOR YEAR		
VED         450 Spec. Topics         3           Elective         5           PG         562 Tmg. Supv.         3           Elective Area Sp.         5           VED         446 Dir. Ind. Study         2	VED 513 Nat. Adit. Ed. 5 VED 104 Orient. Lab 1 VED 591 Prob. Dis. Ad. 5 Elective Area Sp. 5 VED 446 Dir. Ind. Study 2 TOTAL HOURS — 204	VED 425 Intern	

## Graduate Programs

Graduate programs are offered through the Graduate School in administration and supervision, counselor education, educational media, elementary education, health education, music education, physical education, rehabilitation services, secondary education, special education and vocational and adult education. Fifth and sixth-year programs of study in the above areas lead to the degrees of Master of Science, Master of Education, and Specialist in Education, Nondegree graduate study is also available through the Diploma Program leading to sixth-year certification.

Doctoral degrees are offered in educational leadership, counselor education, early childhood education, elementary education, health education, music education, physical education, secondary education, rehabilitation, special education and vocational and adult education. Specializations in secondary education include the following sub-specializations: (a) English education, (b) mathematics education, (c) science education and (d) social science education. See *Graduate School Bulletin* for program options for Doctor of Education and Doctor of Philosophy degrees.

# Related Programs and Services Teacher Certification Services

Programs in the College of Education are approved by the National Council for Accreditation of Teacher Education (NCATE), the National Association of State Directors of Teacher Education and Certification (NASDTEC), the Interstate Reciprocity Compact (IRC) and the Alabama State Board of Education for certifying superintendents, supervisors, principals, counselors, elementary and secondary teachers and educational media specialists. Upon satisfactory completion of a prescribed course of study and upon recommendation of the Dean of the College of Education a professional certificate will be issued by the appropriate State Department of Education. Twenty-eight State Departments of Education now have reciprocal agreements for issuing certificates to graduates of institutions accredited by NCATE.

Students in schools other than the College of Education who wish to complete requirements for graduation in an academic department and also to complete the degree requirements of the Teacher Education Program may pursue the dual objectives program. Students may also take courses in education and psychology for acquiring knowledge and understanding of human growth and development and teaching as a profession. They are eligible to take all such courses for which they satisfy prerequisites.

Students may complete courses in preparation for entering the Fifth-Year Program which offers initial teacher certification at the master's level. Information about the Fifth-Year Program is available from the departmental office where the program is offered. See the *Graduate Bulletin* for more information.

#### Vocational Rehabilitation Service

#### DAVID PATTERSON, Liaison Counselor

The State Department of Education in cooperation with Auburn University maintains the local Rehabilitation Service which provides vocational guidance, counseling, training and placement services to disabled citizens. The Rehabilitation Service also makes available to disabled citizens such services as: surgical and/or medical care, hospitalization, therapeutic treatment, and artificial appliances, when these services are essential to training and/or employment and the individual is not financially able to secure them.

## Learning Resources Center

The Learning Resources Center (LRC), located in Haley Center, is a service component for the College of Education and the College of Liberal Arts. The LRC provides media services which include filmstrips, transparencies, disc recordings, tape recordings, kits, educational games and programs of instruction. LRC personnel assist the faculty and students with the production, selection and utilization of learning materials.

# College of Engineering

WILLIAM F. WALKER, Dean M. DAYNE ALDRIDGE, Associate Dean LARRY D. BENEFIELD, Associate Dean JAMES O. BRYANT JR., Associate Dean JOHN M. OWENS, Associate Dean

ENGINEERS IN THE 1990s are faced with worldwide problems and expectations awesome in responsibility, yet exciting as professional challenges. These range from the extremes of interplanetary exploration through earth orbiting systems to the problems arising mainly from our population explosion: energy, better productivity, housing, transportation and environmental issues.

As a renewed appreciation develops for the contributions of science and technology, engineering leaders are calling for engineers, who are better equipped to tackle the specific, technical problems of the future. They also are calling for engineers who by breadth of education and understanding of other disciplines can convince others of the role of engineers not only in technical matters but in policy decisions to insure the use of technology to benefit mankind.

Engineering education at Aubum provides in a four-year curriculum both the technical knowledge and the broad general education necessary to equip engineers for their problem-solving challenges. Centered on mathematics and the physical sciences, the curricula also stress the importance of social sciences, humanities and communication skills. Auburn's engineering programs enable individuals to develop their natural talents and provide knowledge, skills and understanding that will help them to find their places in society as well as in their vocations.

#### Admission

Freshmen eligibility is determined by the Admissions Office. However, since the requirements for engineering education necessitate high school preparatory work of high intellectual quality and of considerable breadth, the following program is recommended as minimum preparation: English, four units; mathematics (including algebra, geometry, trigonometry, and analytical geometry), four units; chemistry, one unit; history, literature, social science, two or three units. Physics and foreign languages are recommended but not required.

Transfers from Other Institutions must apply through the Admissions Office. The exact placement of these students can be determined only upon review of their transcripts by the College of Engineering.

The College of Engineering allows credit for courses completed with satisfactory grades (C or better) provided the courses correspond in time and content to courses offered at Auburn. Courses that are taught at the 300-level or higher at Auburn are generally not transferable from junior colleges.

Many courses required by the College of Engineering are highly specialized in their content and potential transfer students need to select courses with care. Therefore, to insure maximum transferability of credits, students are encouraged to contact the College as soon as possible about acceptable credits.

Transfers from On-Campus must be approved by the College of Engineering and the admissions committee of the chosen curriculum, and meet the same academic requirements as off-campus transfer students.

# Programs

## Undergraduate

Pre-Engineering — The Pre-Engineering Program consists of a freshman program of studies to prepare students for curricula in the College of Engineering. It also provides academic and career counseling to assist students in determining the curriculum that best fulfills their personal and educational objectives.

Professional Programs — Curricula accredited by the national accrediting agency, the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET), lead to the degrees of Bachelor of Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Industrial Engineering, Materials Engineering, Mechanical Engineering, Bachelor of Science in Agricultural Engineering and Bachelor of Science in Forest Engineering. The curriculum leading to the Bachelor of Computer Science

ence is accredited by the Computer Science Association Commission of the Computing Sciences Accreditation Board. The curriculum leading to the Bachelor of Textile Management and Technology is accredited by the Technology Accreditation Commission of ABET. The Department of Textile Engineering also administers curricula leading to the degrees of Bachelor of Textile Engineering and Bachelor of Textile Chemistry which along with the Textile Management and Technology curriculum are accredited by the Textile Institute, an international organization headuartered in Great Britain which reviews textile academic programs worldwide. The programs in the Department of Textile Engineering are designed to prepare one for a career in one of the facets of the textile industry.

These curricula are designed to meet the educational requirements of the engineering professions. The program in the fundamental sciences of mathematics, chemistry and physics is followed by a study of basic engineering sciences. Specialized or departmental courses are taken in the third and fourth years. Flexibility is provided in all degree programs through electives so that the individual may emphasize areas of personal interest.

Others — The Bachelor of Aviation Management degree (administered by the Aerospace Engineering Department) provides education for management careers with the airlines, general aviation, airports and other industries.

The Bachelor of Science in Forest Engineering is offered jointly by the Agricultural Engineering Department and the School of Forestry. The curriculum combines professional courses in engineering and forestry for students who want careers in forest industries that require training in both engineering and forestry.

Dual-Degree — The College of Engineering has agreements with several predominantly liberal arts institutions to offer an academic program where a student can earn two baccalaureate degrees. Under the terms of this program the first three years of study are devoted to earning a major in any one of the disciplines offered by the institution first entered, while completing the basic sciences and mathematics courses required for pre-engineering at Aubum.

Upon completion of three years of study in the liberal arts the student transfers to the College of Engineering. After a minimum of two years of study in an engineering curriculum, the student earns degrees from both institutions. The broad background provided by this program may enable a student to cope more effectively with many of the problems of modern-day society.

Dual degree agreements have also been made with Aubum University's Colleges of Agriculture, Liberal Arts and Sciences and Mathematics, to provide for dual degree programs with the College of Engineering.

Graduate — The College of Engineering offers the M.S. and Ph.D. degrees in aerospace, agricultural, chemical, civil, computer science and engineering, electrical, industrial, materials and mechanical engineering. The following professional degrees are offered as well: master of aerospace engineering, master of chemical engineering, master of civil engineering, master of electrical engineering, master of industrial engineering, master of manufacturing systems engineering, master of materials engineering and master of mechanical engineering. The M.S. in textile science is a joint program coordinated through the Department of Textile Engineering and Consumer Affairs. The M.S. requires a minimum of 45 quarter hours, including a formal written thesis and one quarter of full-time residency. A minimum of 45 to 48 quarter hours is required under the professional degree program. Additional requirements vary from program to program. For further information, see the *Graduate School Bulletin*.

Cooperative Education — The Cooperative Education Program is offered in all curricula of the College of Engineering. Refer to the program and write to the Director, Cooperative Education, Aubum University, AL 36849, for a booklet which gives additional information.

Extension — The Engineering Extension Service extends the resources of the College of Engineering to the people, businesses and industries of the state. Most of the programs of this expanding service are short courses, conferences, workshops and seminars. For further information, write to the Director, Engineering Extension Service, 107 Ramsay Hall, Auburn University, AL 36849.

Videotape-Based Off-Campus Courses — The College of Engineering offers graduate-level courses for credit and non-credit to off-campus students through its Graduate Outreach Program. Graduate-level courses are videotaped in the classroom on the Aubum campus and mailed to off-campus students on the same day. Students enrolled in the program are required to do the same homework assignments and take the same exams as the on-campus students enrolled in the course. For information on admission to the program, fees, course offerings and other particulars, write to the Graduate Outreach Program, 202 Ramsay Hall, Aubum University, AL 36849 or call (334) 844-5300.

## Pre-Engineering

Scholastic Requirements - Pre-Engineering students are transferred to the curriculum of their choice in the College of Engineering upon meeting the following requirements:

Complete all appropriate freshman courses;

- 2. Earn an overall grade-point average on all required and approved elective course work as follows: 2.6 for Electrical Engineering; 2.0 for Textile Management and Technology; 2.2 for all other curricula.
- 3. Recommendation by the Curriculum Admissions Committee.

A student who has not met the above criteria after six resident guarters is dropped from the College of Engineering. Junior standing will not be granted to any student in the Pre-Engineering. Program.

Academic standing - The College of Engineering's academic standing policy for those students who have completed their pre-engineering requirements and are classified in their engineering curricula is as follows:

1. Engineering students will be placed on engineering academic warning whenever their quarterly grade-point average is less than a 2.0.

- 2. If, during the next quarter in residence, a student on engineering academic warning does not earn a 2.0 quarterly grade-point average, that student will be placed on engineering academic probation.
- 3. If, during the next quarter in residence a student on engineering academic probation does not earn a 2.0 cumulative grade-point average, that student will be automatically withdrawn from the College of Engineering with the notation, "Dropped from College of Engineering" placed on their
- 4. Students who are dropped under the above provisions are eligible for consideration for admission to other curricula outside the College of Engineering, provided they meet the general scholastic requirements for continuance in the university. The student should check with the registrarto determine his or her academic status.

Degree Requirements - To earn the bachelor's degree in the College of Engineering, students must complete the subjects in the curriculum, have a minimum grade-point average of 2.0 in all work attempted at Aubum University and have a cumulative grade-point average of 2.0 on courses passed in the major at Auburn. The major is defined as all course work with the departmental prefix in the student's curriculum, that is, for an electrical engineering student, all courses with the EE prefix are considered to be in the major. It is the student's responsibility to keep informed of course requirements and scheduling. Failure to do so may jeopardize graduation.

Military Science - All curricula in the College of Engineering permit the use of some basic and advanced ROTC courses passed at Auburn University. For these options, see the specific curriculum. Twelve ROTC course credits are approved for all engineering curricula by the College of Engineering only for those ROTC students who are enrolled in, and complete a 12-quarter AU ROTC program. For those students who do not complete a 12-quarter AU ROTC program, course credit will be determined on an individual basis. ROTC courses cannot be substituted for any ABET required courses.

The Pre-Engineering curriculum shown below is uniform for Aerospace, Civil, Computer Engineering and Computer Science, Electrical, Industrial, Materials and Mechanical Engineering. Chemical and Textile Engineering have separate freshman year requirements.

## Curriculum in Pre-Engineering (PN)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	161 An. Geom. & Cal	MH	162 An. Geom. & Cal	MH	163 An. Geom. & Cal
CH	103 Fund. Chem. I	CH	104 Fund. Chem. II	PS	220 Gen. Physics I
CH	103L Gen. Chem. Lab 1	CH	104L Gen. Chem. Lab	PS	220LGen. Physics Lab. I 1
CSE	120 Intro. Engr. Comp 3	EH	110 Eng. Comp	PA	1025
Core	History (p. 39)	Core	History (p. 39)	Core	History (p. 39)

## Department of Aerospace Engineering

The Aerospace Engineering curriculum provides a background for students entering many areas of today's scientific and technological fields. The first two years are devoted to the basic subjects of mathematics and physical sciences. The last two years deal with such areas as aerodynamics, design, astrodynamics, propulsion, structures, vibrations and flight dynamics. In support of these areas, courses in advanced mathematics, computer programming and systems analysis are offered. The methods of systematic problem analysis are stressed. The theory

laught in classroom lectures is experimentally verified in laboratory sessions. During the senior year students may take technical electives in several fields of specialization. The curriculum also serves as a background for graduate study and research.

## Curriculum in Aerospace Engineering (AE)

#### FRESHMAN YEAR

(Pre-Engineering Curriculum)

	SOPHOMORE YEAR		
	Second Quarter		Third Quarter
EGR	235 Dynamics I	EE	302 Infr. to EE I
PS	222 Gen. Physics III	EGR	201 Thermodynamics 3
PS	222LGen. Physics Lab III 1	AE	310 Aerosp. Anal 3
MH	265 Lin. Diff. Equal	EGF	
U	102 Polit. Economy	U	103 Indiv. & Society 3
EH	220 Great Books 1,	Free	Elective or ROTC3
	JUNIOR YEAR		
AE	302 Airloads 4	AE	339 Stat. Stab. & Cntl 4
AE	303 Theo. Aerodyn. I	AE	304 Theo. Aerodyn. II 4
AE	334 Aerosp. Syst. Anal	AE	305 Flight Perl
EH	221 Great Books II5	AE	332 Astrodynamics I 3
	manufacture sensitive selections	EH	404 Tech. Writing5
	SENIOR YEAR		
AE	400 Viscous Aerodyn 3	AE	529 Vibration & Flutter 4
AE	533 Astrodynamics II	AE	521 Flight Veh. Stress Anal 3
AE	541 Dyn. Stab. & Cntl	AE	449 Aerosp. Des. III
AE	448 Aerosp. Design II		1. Elective5
Tech	Elective or ROTC3	Core	Fine Arts (p. 39)
TO	TAL - 210 QUARTER HOURS		
	PS MH U EH AE AE AE AE AE Tech	Second Quarter	Second Quarter   EGR   235 Dynamics     3   EER   295   222 Gen. Physics       1   AER   AER   252 Gen. Physics Lab       1   AER   AER

## Aviation Management

The Aviation Management curriculum provides a technical management background and specialization in aviation leading to careers with the airlines, aircraft manufacturers and airports as well as many other segments of the aviation industry. Information regarding awards, scholarships, internships and aviation management student organizations is available through the Program Coordinator.

#### AREAS OF CONCENTRATED STUDY

Concentrations within the basic program are Professional Flight Management, Airway Science Management and Management in Aircraft System.

Individuals interested in registering in any of the foregoing major fields are advised to contact the Program Coordinator, Aviation Management in the Department of Aerospace Engineering as soon as that decision is made so proper counseling and classification can be provided.

## Curriculum in Basic Aviation Management (AMN)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	160 Pre-Calculus 5	MH	161 Anal. Calculus 5	AM	200 Aerosp. Prob 3
EH	110 Eng. Comp 5	PA	219 Bus. Ethics	PG	201 Psychology 5
HY	121 Tech. & Civ 3	HY	122 Tech. & Civ	HY	123 Tech. & Civ
AM	101 Intr. to Aviation	COM	100 Speech 3	U	101 Soc., Cult. & Env 3
			SOPHOMORE YEAR		
AM	201 Elem. Aerosp	AM	220 Statistics3	EH	221 Great Books II
AM	207 Intr. Comp	PS	206 Phy. II & Lab	AC	215 Fund. Acct5
PS	205 Phy. I & Lab 5	EH	220 Great Books / 5	Core	Fine Arts (p. 39)3
MT	255 Leg. Envir. Bus 4	U	103 Indiv. & Society	Free	Elective3
U	102 Political Economy 3		in the second se		- CONTRACTOR CONTRACTOR STREET, CONTRACTOR C
			JUNIOR YEAR		
EC	301 Econ Prin	AM	309 Prop. & Sys. I 4	AM	310 Prop. & Sys. II
AM	305 Aviation Met 5	AM	320 Econ. Anal5	AM	314 Oper. Prob 5
MN	310 Prin. Mgt 5	FI	361 Prin. Finance5	MT	372 Prin. Transp 5
AM	405 Aviation Safety	Prof.	Elective or ROTC3	AM	416 Air. Transp. I
			SENIOR YEAR		
MT	331 Pnn. Mkt 5	PG	359 Indus. Psych 5	AM	401 Aerosp. Seminar 1
AM	403 Gen. Av. Mgt	AM	417L Simulation	AM	409 Aerosp. Law & Ins 3
AM	417 Air Transp. II	MN	342 Hum. Res. Mgt 5	MN	443 Labor Relations5
EH	404 Tech. Writing 5	AM	413 Airport Mgt 3	Prof	. Elective 6
			Teles Control Commence (Control Control Contro		

TOTAL - 194 QUARTER HOURS

Professional Electives must be approved by the academic advisor.

Six hours advanced ROTC may be used in lieu of COM 100 (3 hours) and Professional Elective (3 hours). Basic ROTC may be used in lieu of six hours of Professional Electives.

## Professional Flight Management

Requires flight education and training through either Certificated Flight Instructor rating or Multi-Engineer rating. The major develops competence in flight in preparation for a flight operation career with the airlines; a corporation flight department, a flight instructor. Special fee required for the flight training courses.

## Curriculum in Professional Flight (AMF)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	160 Pre-Calculus5	MH	161 Anal. Calculus	AM	200 Aerosp. Prob
EH	110 Eng. Comp 5	PA	219 Bus. Ethics5	PG	201 Psychology5
HY	121 Tech. & Civ. (p. 39) 3	HY	122 Tech. & Civ. (p. 39) 3	HY	123 Tech. & Civ. (p. 39) 3
AM	101 Intr. to Aviation	COM	100 Speech 3	U	101 Soc., Cult. & Env 3
S. Dett.			101000000000000000000000000000000000000	AM	215 Prin. of Flight I
			SOPHOMORE YEAR		
AM	207 Intr. Comp 3	AM	220 Statistics	MT	255 Leg. Environ. Bus 4
AM	216 Prin. of Flight II 3	PS	206 Phy. II & Lab	AC.	215 Fund. Acct 5
PS	205 Phy. I & Lab	EH	220 Great Books I	EH	221 Great Books II 5
AM	217 Pvt. Flt. Tmg. I	AM	218 Pvt. Fit. Tmg. II	AM	322 Com. Fit. Tmg. I1
U	102 Political Economy 3	U	103 Indiv. & Society	Free	Elective3
			JUNIOR YEAR		
EC	301 Econ. Prin 5	AM	309 Prop. & Sys. I4	AM.	310 Prop. & Sys. II 4
AM	323 Com. Ops. & Perl 4	AM	320 Econ. Anal 5	AM	314 Ops. Prob5
AM	324 Comm. Flt. Tmg. II 1	AM	325 Prin. Inst. Fit	AM	416 Air Transp. I
MN	310 Prin. Mgt 5	AM	326 Comm. Fit. Tmg. III 1	AM	327 Comm. Fit. Tmg. IV 1
AM.	405 Aviation Safety			AM	428 Prin. Fit. Instr 3
			SENIOR YEAR		
AM	403 Gen. Av. Mgt 3	AM	413 Airport Mgt3	AM	401 Aerosp. Seminar 1
AM	417 Air Transp. II	PG	359 Indus, Psych 5	AM	409 Aerosp. Law & Ins 3
FI	361 Prin, Finance 5	AM	417LSimulation2		Elective9
AM	429 Fit, Instr. Tmg 1	MN.	342 Hum. Res. Mgt 5	Core	Fine Arts (p. 39)
EH	404 Tech. Writing 5		entonomonomonomonomismismi		

#### TOTAL - 196 QUARTER HOURS

All Professional Electives must be approved by the academic advisor.

Six hours advanced ROTC may be used in lieu of COM 100 (3 hours) and Professional Elective (3 hours). Basic ROTC may be used in lieu of six hours of Professional Electives.

## Airway Science Management

Follows an approved selection of professional electives prescribed by the Federal Aviation Administration for a career in air traffic control.

## Curriculum in Airway Science (AMA)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	160 Pre-Calculus 5	MH	161 Anal. Calculus5	AM	200 Aerosp. Prob
EH	110 Eng. Comp 5	PA	219 Bus. Ethics	PG	201 Psychology5
HY	121 Tech. & Civ. (p. 39) 3	HY	122 Tech. & Civ. (p. 39) 3	HY	123 Tech. & Civ. (p. 39) 3
AM	101 Intr. to Aviation	COM		U	101 Soc., Cult. & Env 3
			SOPHOMORE YEAR		
AM	201 Elem. Aerosp	AM	220 Statistics 3	AC	215 Fund. Acct
AM	207 Basic Prog 3	PS	206 Phy. II & Lab5	EH	221 Great Books II
PS	205 Phy. I & Lab	EH	220 Great Books   5	Core	Fine Arts (p. 39)3
MT	255 Leg. Envir. Bus 4	U	103 indiv. & Society	Free	Elective3
U	102 Political Economy 3		***************************************		
19			JUNIOR YEAR		
EC	301 Econ. Prin 5	AM	309 Prop. & Sys. 1	AM	310 Prop. & Sys. II
AM	305 Aviation Met 5	AM	320 Econ. Anal 5	AM	314 Oper. Prob 5
MN	310 Prin. Mgt 5	MT	342 Hum Res. Mgt 5	MT	331 Prin. Mkt 5
AM	405 Aviation Safety 3	Prof.	Elective 3	.AM	416 Air. Transp. I3
			SENIOR YEAR		
EH	404 Tech. Writing5	PG	359 Indus. Psych 5	.AM	401 Aerosp. Seminar 1
AM	403 Gen. Av. Mgt 3	AM	417L Simulation2	AM	409 Aerosp. Law & Ins 3
AM	417 Air Transp. II3	MN	346 Org. Behavior5	MN	443 Labor Relations 5
Prot.	Elective	AM	413 Airport Mgt 3	AM	419 Air Tlc. Cont. & Lab 5
		TO	TAL - 194 QUARTER HOURS		

Professional Electives may be approved by the academic advisor.

Six hours advanced ROTC may be used in lieu of COM 100 (3 hours) and Professional Elective (3 hours). Basic ROTC may be used in lieu of six hours of Professional Electives.

## Aircraft Systems Management

Established and approved by the Federal Aviation Administration to provide for a career as a Flight Safety Inspector. Special fees required for flight training courses.

## Curriculum in Aircraft Systems (AMS)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	160 Pre-Calculus 5	MH	161 Anal. Calculus	AM	200 Aerosp, Prob
EH	110 Eng. Comp., 5	PA.	219 Bus. Ethics5	PG	201 Psychology 5
HY	121 Tech. & Civ. (p. 39) 3	HY	122 Tech. & Civ. (p. 39) 3	HY	123 Tech. & Civ. (p. 39) 3
AM	101 Intr. to Aviation 3	COM	100 Speech 3	U	101 Soc., Cult. & Env 3
	name and the state of the state		)*************************************	AM	215 Prin. of Fit. I
			SOPHOMORE YEAR		
AM	216 Prin. of Fit. II	AM	220 Statistics	AM	322 Com. Flt. Tmg. I 1
AM	207 Intr. Comp 3	PS	206 Phy. II & Lab5	AC	215 Fund. Acct 5
PS.	205 Phy, I & Lab	EH	220 Great Books I	EH	221 Great Books II
MT	255 Leg. Envir. Bus	AM	217 Priv. Flt. Trng. II	Free	Elective3
AM	217 Priv. Fit. Trng. I 1	U	102 Political Economy3	U	103 Indiv. & Society 3
			JUNIOR YEAR		
EC:	301 Econ. Prin	AM	309 Prop. & Sys. I 4	AM	310 Prop. & Sys. II
AM	323 Com. Ops. & Perl 4	AM	320 Econ. Anal	AM	314 Oper. Prob 5
MN	310 Prin. Mgt 5	AM	325 Prin. of Inst. Fit 5	AM	327 Comm. Flt. Tmg. IV 1
MA.	324 Comm. Fit. Trng. II 1	AM	326 Comm. Fit. Tmg. III 1	AM	416 Air. Transp. I
		Core	Fine Arts (p. 39)3	AM	428 Prin. Fit. Instr 3
			SENIOR YEAR		
AM	403 Gen. Av. Mgt 3	PG	359 Indus. Psych 5	AM	401 Aerosp. Seminar1
AM	417 Air Transp. II	AM	417L Simulation 2	AM	409 Aerosp. Law & Ins 3
FI	361 Prin. Finance 5	AM	435 Inst. Flt. Instr. Trng 2	AM	437 Multi-Engine Instr 2
AM	429 Fit, Instr. Trng	AM	413 Airport Mgt3		Prof. Elective9
AM	427 Multi-Engine Trng 2	EHA	404 Tech. Writing		
AM	405 Aviation Safety 3		310010010010010010010010010010000000000		

#### TOTAL - 197 QUARTER HOURS

Professional Electives may be approved by the academic advisor.

Six hours advanced ROTC may be used in lieu of COM 100 (3 hours) and Professional Elective (3 hours). Basic ROTC may be used in lieu of six hours of Professional Electives

## SUGGESTED PROFESSIONAL ELECTIVES COURSES OTHER THAN THOSE LISTED BELOW MAY BE USED

AS PROFESSIONAL ELECTIVES ONLY UPON APPROVAL BY THE PROGRAM COORDINATOR
AVIATION MANAGEMENT: All Except AM 304. COMMUNICATION: COM 311, 340, 480. ECONOMICS: EC 340, 350, 433,
All 500-level courses. ENGLISH: EH 400, 416, HISTORY: HY 307, 308, 309. MANAGEMENT: MN 305, 307, 380, 381, 382, 385,
386, 410, 420, 421, All 500-level courses. MARKETING: MT 344, 336, 341, 372, 432, 436, 440, 474, 475, 476, 477. CIVIL
ENGINEERING: CE 201, 350, 450, 452, 542, 556. ACCOUNTING: AC 213, All 300-level, 410. FINANCE: FI 320, 323, 362, 363,
421, 451, GEOGRAPHY: GY 102, 302, 401, 507.

# Department of Agricultural Engineering

The Agricultural Engineering Department offers programs in agricultural engineering and

in forest engineering.

The Agricultural Engineering curriculum provides the graduate with engineering skills necessary to serve the nation's largest industry – agriculture. In addition to a strong background in mathematics, physical sciences and basic engineering fundamentals, the student of agricultural engineering receives training in biological and agricultural sciences. Through technical electives in the senior year, one can specialize in one or more areas to include soil and water conservation, power and machinery design, electric power and processing, agricultural structures and environment, food engineering and waste management and agricultural pollution control.

The curriculum is coordinated by the colleges of Engineering and Agriculture. Students register in Engineering and are assigned an academic advisor in Agricultural Engineering. Beginning students should apply for admission to the College of Engineering and complete the Pre-Agricultural Engineering program. For qualified agricultural students who develop an interest in Agricultural Engineering during their freshman year, an alternate course sequence for completion of the Pre-Agricultural Engineering program under the guidance of an Agricultural Engineering advisor is available in the College of Agriculture.

## Curriculum in Agricultural Engineering (AN)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	161 An. Geom. & Calc 5	MH	162 An. Geom. & Calc	MH	163 An. Geom. & Calc 5
CH	103 Fund, Chem. I 4	CH	104 Fund, Chem, II	PS	220 Gen. Phys. I
CH	103LGen, Chem. Lab	CH	104LGen. Chem. Lab 1	PS	220LGen. Phys. Lab 1 1
CSE	120 Intr. Engr. Comp 3	EH	110 Eng. Comp 5	PA	102 or 219 Ethics 5
HY	121 or 101 (p. 39)	HY	122 or 102 (p. 39)3	HY	123 or 103 (p. 39) 3
ROT	C or Free Elective 1	ROT	C or Elective 1	ROT	C or Elective1
			SOPHOMORE YEAR		
MH	264 An. Geom. & Calc 5	MH	265 Diff. Equations	EE	330 An. & Des. Log. Cir 4
PS	221 Gen. Phys. II	PS	222 Gen. Phys. III	EGF	201 Thermodynamics I 3
PS	221LGen. Phys. Lab II 1	PS.	222LGen. Phys III Lab	EGF	235 Dynamics I 3
AN	201 Engr. Prin. Bio. Syst 5	EGR	207 Mech. of Mtls 3	EH	220 Great Books I 5
EGR	205 Engr. Mech. Stat	BI	101 Prin, Biol5	Core	Fine Arts (p. 39)
ROT	C or Free Elective 1	ROT	C or Elective 1	ROT	C or Elective 1
			JUNIOR YEAR		
CE	310 Hydraulics I 3	AN	311 Mob. Egpt. Des. Fnd 4	AN	313 L&W Con. Engr
EE	302 Intr. EE1	AN	315 Proc. Engr. Biol. Sys 5	AN	316 Elec. Syst. in Aq
AY	307 Gen. Soils 5	EE	303 Intr. EE II	AN	317 Env. Cntl. Bio. Sys 3
EH.	221 Great Books II 5	EH	404 Tech. Writing5	AEC	202 Ag. Econ. II
	to manufacture experience of the lateral section of the lateral sect			Tech	n. Elective4
			SENIOR YEAR		
AN	403 App. Strct. An. & Des 3	AN	430 Engr. Bio. Sys. 1 4	AN	530 Engr. Bio. Sys. II
IE	360 Engr. Econ. Anal 3	AN	414 Imgation Syst. Des 3	Anin	n./Plant Sci. Elect
AN	418 Waste Mgt. Util. Sys 4	Anim	/Plant Sci. Elective	Tec	h. Elective4
AN	509 Hydraulic Cntl. Syst 4	U	102 Polit Econ	U	103 Indiv. & Society 3
U	101 Soc., Cult. & Env 3		*****************************		

TOTAL - 207 QUARTER HOURS

## Forest Engineering

Forest Engineering is a multi-disciplinary science dealing with one of our most important natural resources — the forests — and mechanical devices and processes for their efficient utilization. Forest engineers are trained to apply engineering and forestry principles to solve operations problems in regenerating, growing, harvesting, handling, transporting and processing timber. They also deal with the engineering problems related to other forest resources.

The curriculum is coordinated by the College of Engineering and the School of Forestry. Students register in the College of Engineering and are assigned academic advisors in Agricultural Engineering and in Forestry. Beginning students should apply to the College of Engineering and complete the Pre-Forest Engineering program. Forest Engineering majors must meet School of Forestry requirements for admission to the Summer Field Practicum. For qualified forestry students who develop an interest in Forest Engineering during their freshman year, an alternate course sequence for completion of the Pre-Forest Engineering program under the guidance of an Agricultural Engineering and a Forestry advisor is available in the School of Forestry.

The Forest Engineering curriculum is accredited as a professional forestry program by the Society of American Foresters.

## Curriculum in Forest Engineering (FYE)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
MH 161 An. Geom. & Cal. 5 CH 103 Fund. Chem. & Lab. 4 CH 103 LGen. Chem. Lab. 1 CSE 120 Intro. Engr. Comp. 3 HY 121 or 101 3 ROTC or Free Elective 1	MH 162 An. Geom. & Cal	MH 163 An Geom & Cal
	SOPHOMORE YEAR	
MH 264 An. Geom. & Cal. 5 PS 221 Gen. Physics II 3 PS 221LGen. Phys. Lab. II 1 FYE 201 Engr. Prin. in Bio. Systs. 5 EGR 205 Appl. Mech. Stat. 3 ROTC or Free Elective 1	MH         265 Diff. Equat.         3           PS         222 Gen. Physics III         3           PS         222 LGen. Phys. Lab. III         1           1 EGR         207 Mech. of Solids         3           BI         101 Prin. of Biology         5           ROTC or Free Elective         1           SUMMER FIELD PRACTICUM           FYE         300 Intro. Forest Oper.         2           FY         302 Intro. Forest Diol.         2           FYE         304 Forest Surveying         5           FY         305 Field Mensuration         4           FY         306 Intro. Forest MgI.         2	CE 303 Civil Engr. Stat

#### College of Engineering

			JUNIOR YEAR	
EE	302 Intr. Elec. Engr. I	FYE	311 Mob. Equip. Des. Fund 4	FYE 401 For Mach Des
FY	318 Forest Meas. I 4	CE	430 Intr. Soil Mechanics 4	FYE 313 Ld.&Wtr.Cns.Eng 3
CE	310 Hydraulics I	FY	319 Forest Meas II	EH 221 Great Books II 5
U	101 Soc. & Culture 3	FYE	315 Proc. Engr. For. Systs 5	Technical Elective
FY	310 Dendrology 4		this seem to the management of the seems	THE PROPERTY OF THE PROPERTY O
			SENIOR YEAR	
FYE	403 App. Struct. An & Des 3	FYE	430 Engr. Des. Bio. Syst. 1 4	FYE 530 Engr. Bio. Syst. II 4
FYE	509 Hydr. Cont. Systs 4	FYE	402 For, Transp. Syst. Des 3	FYE 572 Engr. For.Hv.Sys 4
U	102 Political Economy	Engin	eering Elective4	U 103 Indiv. in Society
EH	404 Tech. Writing 5	FY	540 Forest Economics 4	Technical Elective3

TOTAL - 210 QUARTER HOURS

Six hours of Advanced ROTC may be substituted from six hours of Techical Electives.

# Department of Chemical Engineering

The program leading to the bachelor's degree in chemical engineering consists largely of the study of broad scientific and engineering principles which have numerous applications in the chemical and related industries. In order to assist those students wishing to pursue special interests, program specializations are offered in Biochemical Engineering, Computer Control, Energy, Environmental Chemical Engineering, Pre-Medicine, and Pulp and Paper Engineering.

The broad university education provided, when supplemented by professional experience, enables graduates to qualify as engineers in the chemical industry and in a range of related industries. Students who elect to continue their education through one or more advanced degrees are qualified for better positions and often make more rapid progress than those with just the bachelor's degree.

## Curriculum in Chemical Engineering (CHE)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
CH 111 or CH 103 5	CH 112 or CH 1045	CH 113 or CH 105 5
MH 161 An. Geom. & Calc 5	MH 162 An. Geom. & Calc5	MH 163 An. Geom. & Calc 5
CHE 101 Intr. CHE 1	EH 110 Eng. Comp	PS 220 Gen. Physics
Core History (p. 39) 3	Core History (p. 39)	Core History (p. 39)
U 101 Soc., Cult. & Env 3	101101111101101101101101101101101111	2780400100100100100001001010000011
	SOPHOMORE YEAR	
CHE 210 Principles of CHE 4	CHE 211 CHE Thermodyn. I 4	U 102 Polit Econ3
MH 264 An, Geom. & Calc 5	EH 221 Great Books II	PS 222 Gen. Physics 4
EGR 201 Thermo. I	CHE 361 Transport 1 4	GHE 337 Thermo. II
EH 220 Great Books I 5	MH 265 Diff. Equations	CHE 362 Transport II4
to a section of the property of the section of the	COM 100 of ROTC	CHE 213 Comp. in CHE
	JUNIOR YEAR	
CHE 515 Comp. App. CHE 3	CHE 366 Unit Oper. 1 3	CHE 363 Transport III 4
CH 207 Org. Chem 5	CHE 367 Fund. Solid Oper	CHE 370 Reaction Engr 4
CHE 382 CHE Lab I 3	U 103 Indiv. & Society	GHE 486 CHE Lab II
EH 404 Tech. Writing 5	GH 208 Organic Chem 5	CHE 365 CHE Analysis3
EE 302 or 261 3	Engr. Sci. Elect. or ROTC 3	Free Elective or ROTC
	SENIOR YEAR	
CHE 546 Comp. Proc. Sim 4	CHE 517 Dig. Proc. Cont	CHE 565 Hazard Mat. Mgt
CHE 516 Proc. Dyn. & Cont 4	CHE 444 Proc. Des. Pract	CHE Sci./Des. Elect. or ROTC 3
CH 507 Phys. Chem 5	CHE 518 Proc. Dyn & Cnt. Lab 2	CH 508 Physical Chem
CHE 545 Proc. Econ & Des 3	CHE 447 Comp. Proc. Des	Core Fine Arts (p. 39)3
***************************************	PA 219 Bus. Ethics5	CH Adv. Chem. Elect. 1 4

TOTAL - 210 QUARTER HOURS

- One course selected from CH 209, 509, 510, 513, 518, FP 478.
- Three hours selected from EE 301, 303, IE 330, 331, EGR 205, MTL 220.

## **Biochemical Engineering Program Specialization**

Chemical engineers trained in biochemical engineering and biotechnology are the key to successful commercialization of new biologically based processes ranging from high value pharmaceuticals to new food processes. This program specialization provides a strong biology and chemistry fundamental background for graduate work in biochemical engineering and a plan of study to meet these objectives.

The following courses for the Biochemical Engineering Program Specialization replace courses in the CHE curriculum model. BI 101 replaces Eng. and Sci. Electives, MB 300 replaces CHE 565, CHE 595 replaces CHE Sci./Des. Elective, Elective (3) replaces COM 100 (oral and written communication are strong components in CHE 382, 444, 447, 486 and 518) and CHE 518 replaces Advanced Chem. Elective.

Any deviation from the above requires approval of the department head.

## Computer Control Program Specialization

Chemical engineers with expertise in the application of computer-aided process control, computer-aided process systems and advanced instrumentation are highly sought after by all process industries. The program specialization provides appropriate courses for an individual with interests in computer control.

The following courses for the Biochemical Engineering Program Specialization replace courses in the CHE curriculum model. Computer Control Electives (eight hours selected from EE 351, 362, CSE 200, 220, CHE 450, 479, 499) replaces CHE Sci./Des./Free Elective, EE 301 replaces Engr. Sci. Elective, CH 513 replaces Advanced Chem. Elective, and Elective (3) replaces COM 100 (oral and written communication are strong components in CHE 382, 444, 447, 486 and 518).

Any deviation from the above requires approval of the department head.

## **Energy and Fuels Engineering Program Specialization**

Chemical engineers form the technical manpower backbone of the energy industry (petroleum, coal, natural gas, solar, etc.) and efficient use of energy is exceedingly important in all industries. This program specialization provides for individuals with interests in energy (either resources, conversion, efficiency and/or conservation.

The following courses for the Biochemical Engineering Program Specialization replace courses in the CHE curriculum model. Energy/Fuels Electives (eight hours selected from PS 520, ME 511, 512, 525, 625, GL 315, 641, EE 383, BS 351, CHE 401, 402) replaces Eng. Sci. and Free Elective/COM 100*, CHE 412 replaces CHE Sci./Des. Elective. CH 513 replaces Advanced Chem. Elect., and Elective (3) replaces COM 100*

Any deviation from the above requires approval of the department head, oral and written communication are strong components in CHE 382, 444, 447, 486 and 518)

## **Environmental Chemical Engineering Program Specialization**

The environmental chemical engineering specialization prepares students for careers in the expanding environmental arena. U.S. industrial companies are investing heavily in upgrading facilities to meet new environmental standards. Students specializing in this area learn about the chemical processes and reactions which affect the environment and the latest governmental regulations pertaining to air, water and land quality, as well as hazardous materials management. This specialization prepares students for environmental positions in a broad range of manufacturing and service industries. A foundation in chemical engineering with the environmental chemical engineering specialization provides the versatility to move into various positions within an organization and advance.

The following five courses (16 credit hours) are required for completion of the Biochemical Engineering Program Specialization and replace courses in the CHE curriculum model. CE 421 replaces Eng. Sci. Elective, CE 520 replaces Adv. Chem. Elective, CE 521 replaces Free Elective, Environmental Elective (CE 528 or CHE 595 or other suitable environmental course) replaces CHE Sci./Des. Elect., and Elective (3) replaces COM 100 (oral and written communication are strong components in CHE 382, 444, 447, 486 and 518).

Any deviation from the above requires approval of the department head.

### Pre-Medicine Program Specialization

This specialization is for students planning professional careers in medicine, dentistry or biomedical engineering. The program is highly regarded by medical and dentistry schools admissions committees. Aubum chemical engineers with grade-point averages of B+ or better have been favorable accepted by medical and dental schools. This specialization also provides the necessary preparation for students wanting to do graduate work in biomedical engineering and, when completed, provides a regular chemical engineering degree while also meeting pre-medicine requirements.

The following six courses (26 credit hours) are required for completion of this specialization and replace courses in the CHE curriculum model. BI 101 replaces CHE 565, BI 103 replaces Eng. Sci. and Free Electives, Elective (3) replaces COM 100 (oral and written communication are strong components in CHE 382, 444, 447, 486 and 518) or CHE 101, ZY 310 replaces CHE Sci./ Des. Elective, PA 218 replaces PA 219, CH 209 replaces Adv. Chem. Elective.

All students in this program specialization must be advised by the Pre-Health Professions Advisor.

Any deviation from the above requires approval of the department head.

#### Pulp and Paper Chemical Engineering Program Specialization

This specialization prepares students for challenging and rewarding technical careers in the pulp and paper and allied industries. The Southeast is home to the largest concentration of pulp and paper manufacturing in the world and Alabama with its sophisticated technological mills ranks second in the U.S. The industry is capable of sustainable development with a renewable raw material base, recyclable products and processing technology able to achieve energy selfsufficiency and environmental compatibility. Engineers entering the pulp and paper and allied industries assume increasing managerial responsibility rapidly

The following eight courses (27 credit hours) are required for completion of this specialization and replace courses in the CHE curriculum model. CHE 409 replaces 565. CHE 410 replaces Eng. Sci. Elective, CHE 457 replaces 447, Elective (3) replaces COM 100 (oral and written communication are strong components in CHE 382, 444, 447, 486 and 518), CHE 510 replaces Free Elective, CHE 412 replaces CHE Sci./Des. Elective, CHE 556 replaces 546, FP 478 re-

places Adv. Chem. Elective.

Any deviation from the above requires approval of the department head.

# Department of Civil Engineering

Civil Engineers conceive, plan, construct and operate facilities and systems that allow us to reach out toward the realization of some our most noble societal goals. Buildings, bridges, pipelines, highways, railways, airports, launching pads, harbors, dams, power plants and water treatment facilities are but a few of the creations of civil engineers.

Employment opportunities abound across a wide spectrum of businesses, industries and governmental agencies. Civil engineers hold important positions at many levels in both the public and private sectors of the economy and often have the opportunity to move into upper level management. Civil engineers interact with the public far more than other kinds of engineers and often have the satisfaction of seeing the results of their work serve to benefit society directly.

The civil engineering curriculum is broad-based and professionally oriented. It emphasizes the application of science and mathematics to the solution of engineering problems, encourages the development of communications skills and it fosters within each student an appreciation for culture and the world in which we live. The first two years of study focus on the principles basic to the practice of engineering. The last two years provide the opportunity to apply these principles in required and elective courses pertaining to all major technical subdiscipline areas including construction methods and materials, soil mechanics, highway transportation, hydraulics, structures and environmental engineering.

## Curriculum in Civil Engineering (CE)

#### FRESHMAN YEAR

(See Pre-Engineering Curriculum)

			SOPHOMORE YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	264 An. & Calculus 5	MH	265 Diff Equations	EGR	207 Mech. of Solids
PS	221 Physics II	PS	222 Physics III	EGR	201 Thermodynamics I 3
PS	221L Physics Lab 1	PS	222L Physics Lab 1	CE	206 CE Mechanics
IE	172 Graph. Com. Des	EH	220 Great Books 1	EH	221 Great Books II
CE	200 Intr. to CE	EGR	205 Statics 3	CE	301 Analysis 3
CE	202 CE Comp. Appl 3	CE	201 Surveying 3		
			JUNIOR YEAR		
EGA	235 Dynamics 3	CE	300 Engr. Sci. Appl 1	EH	404 Tech. Writing5
GL	315 Engr. Geology 4	CE	303 Statistics	CE	320 Urban Hyd. Des
IE	360 Engr. Econ 3	CE	311 Hydraulics II	CE	350 Highway Engr. 1 3
CE	310 Hydraulics I	EE	302 Intro. to EE	CE	420 Water Treat
CE	360 Structures I 4	CE	465 Steel Design I	CE	430 Intr. Soil Mech 4
		CE	382 CE Materials4	CE	311L Hydraulics Lab 1
			SENIOR YEAR		
U	101 Soc., Cult. & Env 3	U	102 Polit Econ	U	103 Indiv. & Society
CE	421 Waste Treat 4	COM	100 Prof. Comm	EC	301 Ec. Pr./Bus. Pol or
CE	431 Soil & Fnd. Engr 3	Tech.	Elective 3	MN	310 Prin. of Management 5
CE	460 Concrete Des. 1	Core	Fine Arts (p. 39)	CE	401 Prof. Practice1
CE	441 Intro. to Construction 3	Desig	n Elective 3	CE	Sr. Design Project 5
			server research and the first technical extension	Tech	Elective 3

TOTAL - 204 QUARTER HOURS

A total of 12 hours ROTC credit may be substituted for a Technical Elective, CE 200 and either EC 301 or MN 310 Technical and Design Electives must be selected from an approved course list. The Senior Design Project must be selected from an approved course list.

#### TECHNICAL AND DESIGN ELECTIVES

A list of suggested technical and design electives may be obtained in the departmental office. Any course not on the list must be approved by the head of the department, Electives may be selected to emphasize construction management, environmental engineering, geotechnical engineering, hydraulics and hydrology (ground and surface water), pavement materials, structural engineering and transportation engineering.

CONSTRUCTION ENGINEERING - CE 542, 544, 582, 583: ENVIRONMENTAL ENGINEERING - CE 422, 423, 520, 521, 523, 524, 528. GEOTECHNICAL ENGINEERING - CE 530, 531, 532, 538. HYDRAULICS/HYDROLOGY AND GROUNDWATER ENGINEERING - CE 412, 511, 513, 515, 516, 518. PAVEMENT MATERIALS ENGINEERING - CE 584, 585, 587, 589. STRUCTURAL ENGINEERING - CE 491, 560, 562, 565, 569, 570. TRANSPORTATION ENGINEERING - CE 450, 452, 454, 550, 551, 553, 554, 556, 558.

### **Environmental Science**

Environmental Science, administered by the College of Engineering, is an interdepartmental program based on strengths in engineering and the biological and physical sciences.

Environmental science specialists are employed by industries, consultants, trade associations and governmental agencies to work in areas such as hazardous materials management, environmental impact assessment, water supply, refuse and wastewater control, air pollution control, radiation health physics, industrial hygiene, institution sanitation, food sanitation, industrial safety, public health, and local, national and global ecology.

The program leading to a Bachelor of Science degree is designed to prepare graduates for careers in the broad field of environmental science. Students desiring to incorporate an engineering or computer science base into this program are strongly encouraged to do so.

## Curriculum in Environmental Science (ENS)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
CH MH EH Core	103 Chemistry I		104 Chemistry II	CH BI EH Core	105 Chemistry III
			SOPHOMORE YEAR		
BI PS PS EH ZY	107 Environ Biology         5           205 Physics I         3           205LPhysics I Lab         1           221 Great Books II         5           205 Wildlife Cons         3	U PS PS CH PA	101 Soc., Cult. & Env	PS PS CH CH AEC	304 Meterology     5       207 Physics III     3       207L Physics III Lab     1       305 Anal. Chem. Lab     2       2010 Microcomputers     3
			JUNIOR YEAR		
PO BI MB GSE	327 Policy Process     5       103 Animal Biol     5       300 Gen. Microbiol     5       120 Computers     3	FY COM U ZY Free	344 Environ. Law	AY ADS NFS CE EH	304 Gen. Soils     5       321 Anim. Biochem.     or       318 Nutr. Biochem.     5       523 Env. Hith. Engr.     3       404 Tech. Writing     5
			SENIOR YEAR		
DMS IE U CE CE	503 Occup. Salety	MB CE CE CE Appre	541 Environ. Micro. 5 524 Air Pollution 5 521 Env. Engr. Chem. II 3 521 Env. Egr. Ch. Lab II 1 oved Prof. Elect. (see dept.) 3	CE	362 Comm. Org 4 527 Fnd Wat/Wste Tr 5 oved Prof. Elect (see dept.) 4 Elective or ROTC 3
Fran	Flective or ROTC		Committee of the Commit		

#### TOTAL - 208 QUARTER HOURS

CE 523 and 527 are writing reinforcement courses.

A total of 12 hours of ROTC credit may be substituted for COM 100 and the Free Electives.

## Geological Engineering

The curriculum in geological engineering, administered by the Department of Civil Engineering in the College of Engineering, is an interdisciplinary curriculum conducted cooperatively by the Civil Engineering Department and Geology Department in the College of Sciences and Mathematics and is monitored by a faculty Geological Engineering Curriculum Committee.

The program consists of 203 quarter hours representing 12 regular academic quarters and one regular summer session during which students are required to take Geological Field Methods and Geological Mapping (eight credit hours, summers only), a part of the engineering design requirement for ABET accreditation. The curriculum consists of the general freshman requirements of the College of Engineering, rigorous mathematics and chemistry through organic chemistry (CH 207) and a complete complement of basic engineering and geology courses.

The program's objective is to produce graduates who will be able to pass the Fundamentals of Engineering (FE) test, and ultimately, the test for registration as a professional engineer and/or

the test for professional registration as a geologist. Students will also be well prepared for advanced degree programs in engineering or geology. The curriculum will emphasize the physics, chemistry, biology, hydrology and geology of the near-surface portions of the crust which are the major portions involved with geotechnical, water supply, groundwater contamination and waste disposal problems. Subjects related to mining and mineral engineering are not emphasized.

## Curriculum in Geological Engineering (GE) *

#### FRESHMAN YEAR

(See Pre-Engineering Curriculum)

		SOPHOMORE YEAR		
105 Chemistry 4	CH	207 Org. Chem 4	GL	315 Engr. Geology4
105LChem. Lab 1	MH	265 Diff Equations	EGR	201 Thermo. I
264 An. & Calculus	PS	222 Physics	CE	301 Civil Engr. Analysis 3
221 Physics 3	PS	222LPhysics Lab 1	EH	220 Great Books I 5
221LPhysics Lab	EGR	205 Statics 3	EGR	207 Mech. Solids
	CE	202 Computer 3		10+00+00+00+00+00+00+00+00+00+00+00+00+0
		JUNIOR YEAR		
221 Great Books II	CE	303 Statistics4	GL	240 Struct. Geol
360 Engr. Econ	CE	311 Hydraulics II	CE	412 Hydrology3
302 Circuits	CE	311L Hydraulics Lab 1	CE	430 intro. to Soils 4
310 Hydraulics ( 3	GL	302 Optical Miner 5	U	101 Soc., Cult. & Env
301 Mineralogy 5	EH	404 Tech. Writing5		
	SUM	MER QUARTER/JUNIOR YEAR		
	GL	215 Geol. Field Methods 6		
	GL	231 Indep. Geol. Mapping 2		
		SENIOR YEAR		
515 Subsurf. Hydro 3	CE	516 Subsur. Meas3	U	103 Indiv. & Society
102 Political Economy 3	COM	100 or ROTC3	Core	Fine Arts (p. 39)3
431 Soil & Found	GL	520 Grndwtr. Geochem 3	Free	Elective
401 Sed. Petrology 5	GL	411 Stratigraphy5		11111111111111111111111111111111111111
Elective or ROTC 3	Tech	nical Elective or ROTC3		iconomonomonomistra es es est de
	264 An. & Calculus 5 221 Physics 3 221LPhysics Lab 1  221 Great Books II 5 380 Engr. Econ. 3 302 Circuits 3 310 Hydraulics 1 3 301 Mineralogy 5  515 Subsurf. Hydro. 3 102 Political Economy 3 431 Soil & Found. 3 401 Sed. Petrology 5	105LChem. Lab	105 Chemistry	105 Chemistry

TOTAL - 203 QUARTER HOURS

Technical Electives must be selected from an approved course list.

## Department of Computer Science and Engineering

Computer Science — The Computer Science curriculum, leading to the Bachelor of Science in Computer Science, combines a general foundation in science, mathematics, social sciences and humanities and the fundamentals of computer science with advanced work in the theoretical bases for computation, design and analysis of algorithms and software development methodologies. It is intended to prepare students for a range of careers in software design, analysis and development, as well as for graduate study. Course work in computer science includes hands-on exposure to a variety of computer systems, tools and techniques. The curriculum meets general AU requirements and has been accredited by the Computer Science Accreditation Commission (CSAC) of the Computer Sciences Accreditation Board, Inc.

## Curriculum in Computer Science (CS)

#### FRESHMAN YEAR

(See Pre-Engineering Curriculum)

20	PHC	MAC	ADE.	VE.	ΔD
30	FILE	/W/ %	me	100	mn.

	First Quarter		Second Quarter		Third Quarter
CSE	200 Fund. Comp. Sci. I 4	CSE	220 Fund, Comp. Sci. II 4	CSE	350 Sys. Prog. w/ C
PS	222 Gen. Physics III 3	PS	221 Gen. Physics II	EE	330 A&D Logic Cir4
PS	222LGen, Physics III Lab 1	PS	221LGen. Physics II Lab 1	EH	221 Great Books II 5
U	101 Soc., Cult. & Env 3	U	102 Political Economy	U	103 Indiv. & Society
MH	264 An, Geom. & Cal 5	EH	220 Great Books I		Linksplante in protection of the contraction of
	***************************************	MH	266 Lin. Algebra3		
			JUNIOR YEAR		
CSE	360 Fund. Algorithms 3	CSE	432 Intro. Comp. Networks 3	CSE	405 Oper, Syst 3
CSE	422 Intr. Sftw. Engr 3	Free	Elective or ROTC3	CSE	405L Oper, Syst. Lab 1
EE	335 Comp. O&A.Prg 3	IE.	331 Prob. for Engr	CSE	412 Database Sys. I
Concentration *		Concentration * 5		EH	404 Tech. Writing
CSE	324 Discrete Struct 3	Tech	Elective or ROTC3	Conc	entration *5

There are recommended elective sequences in Business Administration, Environmental Engineering, Geotechnical, Groundwater Modeling, Soil Science, Structures and Urban Hydrology.

#### College of Engineering

			SENIOR YEAR	
CSE	520 Thy. Form. Lang 3	CSE	530 Des. Comp. Arch	CSE 521 Compiler Const
CSE	518 Prog. Lang. Conc	CSE	560 Artificial Intel 4	CSE 521LCom. Const. Lab
Concentration * 5		Concentration * 5		CSE 527 D&A of Alg
CSE	Approved Elective	CSE	Approved Elective	CSE Approved Elective
	Free Elective or ROTC 3		HOLDON OF THE STATE OF THE STAT	Tech. Elective or ROTC
	vertical account in a vertical account of the last		seement seement seement seement seement	Core Fine Arts (p. 39)3

#### TOTAL - 200 QUARTER HOURS

Computer Engineering — The Computer Engineering curriculum, leading to the Bachelor of Computer Engineering, provides an engineering science base that has been enriched with a range of courses from social sciences and the humanities. This is a design-oriented curriculum, intended to prepare students for graduate study or professional careers in computer system integration, systems programming, computer architecture or other areas concerned with the interface between hardware and software. Course work emphasizes practical laboratory experience in digital design, software development and other design applications. The curriculum meets general Aubum University requirements and has been accredited by the Accreditation Board for Engineering Technology (ABET).

## Curriculum in Computer Engineering (CPE)

		(Sam	FRESHMAN YEAR e as Pre-Engineering Curriculum) SOPHOMORE YEAR		
	First Quarter		Second Quarter		Third Quarter
OSE PS	200 Fund. Comp. Sci. I	CSE PS	220 Fund. Comp. Sci. II	EE	350 Sys. Prog. w/ C 3 330 A&D Logic Cir 4
PS MH	222LGen. Physics III Lab 1 264 An. Geom. & Calc 5	PS EE	221 LGen. Physics II Lab 1 261 Lin. Cir. Anal. I	MH	266 Lin. Algebra
EH	220 Great Books I 5	EH	221 Great Books II	EE	264 Lin. Cir. An. II Lab 1
			JUNIOR YEAR		
CSE CSE EE U EH	360 Fund. Algorithms	CSE Free EE U EGR	432 Intro. Comp. Networks 3 Elective or ROTC	U Free	405 Oper, Syst
			SENIOR YEAR		
CSE EE IE CSE EGR	520 Thy. Form, Lang	CSE CSE CSE IE	Arch. Elective *	CSE CSE CSE	\$21 Compiler Const
		TO	TAL - 200 QUARTER HOURS		

# Department of Electrical Engineering

The Electrical Engineering curriculum is a carefully formulated program designed to prepare its graduates for the practice of engineering at a professional level in an era of rapid and challenging technological development. It is accredited by the Accreditation Board for Engineering and Technology (ABET). Fundamental to the program is a broad liberal education base of humanistic — social studies which are intended to impart a sense of social awareness and responsibility, tempered by humanistic values. An extensive program of study in basic sciences and mathematics provides the physical understanding and analytical tools which are requisite for the study of engineering.

The professional portion of the curriculum emphasizes seven basic areas of study. These are: circuit analysis, communications, controls, digital systems, electronics, electromagnetics and power systems. Technical electives in the senior year provide flexibility in the curriculum to accommodate a diversity of interests and talents. A student, through choice of technical electives, can pursue deeper study in a particular subject area or choose a variety of courses to maintain a broad program. The curriculum places strong emphasis on the importance of hands-on laboratory experience, knowledgeable use of digital computer systems, oral and written communications skills and the development of an ability to maintain professional competence through continued self-study after graduation.

Concentration must be approved by CSE Department Director of Undergraduate Studies.

## Curriculum in Electrical Engineering (EE)

#### FRESHMAN YEAR

(Same as Pre-Engineering Curriculum)

#### SOPHOMORE YEAR

	First Quarter		Second Quarter		Third Quarter
MH	264 An. Geom. & Calc 5	MH	265 Lin. Diff. Equations 3	MH	266 Lin. Algebra
PS	222 Gen. Physics III	PS	221 Gen. Physics II	EE	263 Lin. Cir. An. II 4
PS	222L Gen. Physics III Lab 1	PS	221L Gen. Physics II Lab 1	EE	264 Lin. Cir. An. Lab
EH	220 Great Books I 5	EE	261 Lin. Cir. An. 1	EE	291 Electromag. Prin. I 3
u	101 Soc., Cult. & Env	EH	221 Great Books II 5	EGA	205 Engr. Mech. Stat 3
		U	102 Political Economy 3	U	103 Indiv. & Society
			JUNIOR YEAR		
EE	330 A&D Logic Cir 4	EE	340 Communications I 3	EE	335 Comp. O&A Lang 3
EE	362 Linear Systems	EE	371 Electronics I 4	EE	341 Communications II 4
EE	381 Intr. Elec. Power Engr 3	EE	382 Electromech. En. Conv 4	EE	351 Lin. Feedback Sys 4
EE	392 Electromag, Prin. II	EE	393 Appl. Electromag 4	EE	374 Electronics II
	Engr. Sci. Elective*	EE	311 Prob. Mth. for EE	EE	383 Power Sys. An 4
			SENIOR YEAR		
EE	430 Comp. Sys. Design 4	EE	401 Sr. Design Projects 3	EE	402 Sr. Des. Projects
EE	452 Disc. & Noni. Syst 4		Tech. Elective***		Tech. Electives***9
EE	475 Electronics III	IE	360 Engr. Econ. An		Core Fine Arts (p. 39) 3
EH	404 Tech. Writing 5	PS	320 Mod. Physics 3		Free Elective
	WHAT WAS TO SEE THE SE	COM	100 Prof. Com3		- I deferment manufacture manu

#### TOTAL - 210 QUARTER HOURS

- Engineering Science Elective: to be chosen from EGR 207, 201, 235 and MTL 210.
- For University Core options to satisfy these requirements, see pages 40-41,

Technical Electros: Guidelines for selecting technical electros can be obtained from the Electrical Engineering Undergraduate Counselor.

Basic ROTC may be substituted for COM 100 and three hours of Free Electives. Advanced ROTC may be substituted for IE 360 and three hours of Technical Electives.

# Department of Industrial Engineering

Industrial Engineering differs from other branches of engineering in three ways. First, it covers industrial, commercial and service activity. Second, it gives emphasis to the role of people as well as machines and materials in systems design. Third, it is heavily involved in the economic and financial aspects of the problems it considers. While the industrial engineer is still concerned with the integration of manufacturing and production systems, many non-manufacturing industrial organizations use industrial engineering techniques. Thus, industrial engineers practice in health, marketing, financial, governmental, military, transportation, educational, agricultural and consulting organizations as well as manufacturing firms.

The IE curriculum emphasizes the systems approach to the design, analysis and control of manufacturing and production systems. Graduates are prepared to resolve problems concerning materials, people, products, services and information. The curriculum includes courses in manufacturing processes, computer systems, production systems, industrial ergonomics and safety, economic analysis, statistical analysis, operations research and the design of work methods. The curriculum is flexible to enable the development of individual professional interests through the availability of approximately one quarter of elective hours.

Employment opportunities are available to the graduate since industrial engineering competencies are required by almost all manufacturing and service organizations. Also, industrial engineering training and experience provide excellent training for many management positions.

### Curriculum in Industrial Engineering (IE)

## FRESHMAN YEAR (See Pre-Engineering Curriculum)

			SUPHUMUNE TEAM		
	First Quarter		Second Quarter		Third Quarter
MH	264 An. Geom. & Calc 5	IE	331 Prob. for Engr3	IE	332 Engr. Stat. I
PS	221 Gen. Physics II 3	EGR	205 Engr. Mech. Stat	IE	341 Oper. Res. I
PS	221LGen. Phys. Lab II 1	PS	222 Gen. Physics III	MH	266 Lin. Algebra
IE	172 Graph. Com. & Des 3	PS	222LGen. Physics Lab III 1	EGR	207 Mech. of Solids
EH	220 Great Books I 5	MH	265 Lin, Diff. Equations 3	U	101 Soc., Cult. & Env 3
	жини	EH	221 Great Books II 5		
			JUNIOR YEAR		
IE	333 Engr. Stat. II	IE	301 Mthds. Engr3	IE	380 Manf. Engr. I 4
IE	343 Oper, Res. II 3	IE	360 Engr. Econ. An3	IE	390 or ROTC 1
MTL	220 Matis. & Prop. I	EGR	201 Thermodynamics 3	1E	422 Prod. Cont. Func. 1 3
EGR	235 Dynamics 3	EE	302 Intr. to EE 1	EE	303 Intr. to EE II3
U	102 Political Economy 3	U	103 Indiv. & Society3	EH	404 Tech. Writing

#### College of Engineering

			SENIOR YEAR		
IE	401 Occ. Ergo. & Sal 5-	)E	497 Sr. Des. Proj. I	IE	498 Sr. Des. Proj. II
IE	456 Simulation 3	IE	433 Stat. Qual. Cont	IE	Elective (see dept.)
)E	425 Prod. Cont. Func. II 3	E	Elective	Core	Fine Arts (p. 39) 3
AC	215 or ROTC	1E	482 Manf. Sys. Des		
		App	roved Tech. Elect. or ROTC 6		

#### TOTAL - 194 QUARTER HOURS

#### **TECHNICAL ELECTIVES**

A pamphlet describing electives is available in the I.E. department office. The student is encouraged to develop an elective sequence in one or two areas and must obtain faculty advisor approval of the courses chosen.

MANUFACTURING ENGINEERING/PRODUCTIONS SYSTEMS: IE 480, 484, 525, 529, 538, 545, 580, 584, 588, 621, 622, 623, 625, 656, 685, ME 230, 537, MTL 320, 436. OCCUPATIONAL ERGONOMICS/SAFETY ENGINEERING: IE 501, 502, 504, 601, 605, 606, 607, 608, 609, PG 359. ENGINEERING METHODS: AE 302, 310, CE 360, 362, EE 330, ME 304, 370, MTL 320, ENGINEERING MANAGEMENT: EC 659, IE 525, 560, 625, MT 331, 434, PG 359, 562. COMPUTER SCIENCE: CSE 200, 220, 300, 301, 335, 350, 360, 412, 512, 520, 523, EE 330, 335, 430, 521, MH 371, MHC 550. OPERATIONS RESEARCH AND STATISTICS: IE 525, 536, 538, 541, 542, 547, 549, 551, 625, 642, 656.

# Department of Mechanical Engineering

The basic engineering fields of mechanics, materials science, thermodynamics, fluid mechanics and heat transfer are covered in depth in this curriculum to give students understanding and the ability to solve problems in these areas. In addition, courses offered include instruction in combustion engines, gas turbines, power plants, air conditioning, refrigeration, automatic controls, turbomachinery and machine design. Courses in electrical engineering equip the graduate with fundamental knowledge in this field. Special courses in computer programming and engineering applications are integrated throughout the curriculum. Practice in writing and speech is also provided.

Modern courses at the senior level, employing group and individual projects, and computeraided design, provide an opportunity for the student to solve typical engineering problems requiring the development of skill and cooperation in creative design, analysis and synthesis. Technical electives are provided in the senior year to enable students to specialize to a limited extent.

The Mechanical Engineering program is accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The four-year curriculum leads to the degree of Bachelor of Mechanical Engineering. This degree leads to careers in industry and government and also serves as a background for graduate study and research.

Technical Electives must be selected from an approved list (see department). At least six hours must come from electives designated as Mechanics, at least seven hours must come from electives designated as Systems and Design, and at least six hours must come from electives designated as Thermal Sciences. Additionally, at least nine of the elective hours must have a design focus. Details on electives available in each area and on their design content can be obtained from the department.

## Curriculum in Mechanical Engineering (ME)

#### FRESHMAN YEAR

(See Pre-Engineering Curriculum)

			SOPHOMORE YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	264 An. Geom. & Calc 5	PS	222 Gen. Physics III	MH	362 Engr. Math3
PS	221 Gen. Physics II	PS	222LGen. Physics Lab	EE	302 Intr. to EE /3
PS	221LGen. Physics Lab 1	MTL	220 Matls. & Prop. I	ME	230 Mech. of Mtls. II
EGR	205 Engr. Mech. Stat 3	EGR	207 Mech. of Mtls. I	EGR	201 Thermodynamics I 3
EH	220 Great Books I	ME	296 Comp. Lab	EGR	235 Dynamics 1 3
		MH	265 Lin. Diff. Equations 3	ROT	C or Free Elective3
		ROTO	C or Free Elective2		***************************************
			JUNIOR YEAR		
EE	303 Intr. to EE II 3	EE	301 Engr. Instru	EH	404 Tech. Writing5
ME	304 Thermodynamics II 3	ME	311 Energy I	ME	341 Fluid Mechanics II 3
ME	370 Dynamics of Mach 4	ME	340 Fluid Mechanics I	ME	397 Meas. Lab
MTL	320 Matis. & Prop. II	EH	221 Great Books II	Appr	roved Tech. Elective
IE	360 Engr. Ec. Anal 3	0	101 Soc., Cult. & Env	U	102 Political Economy 3
			SENIOR YEAR		
ME	421 Heat Transfer I 3	ME	422 Heat Transfer II	ME	494 Adv. Projects II 4
ME	480 Mech. Engr. Des. 1 4	ME	475 Comptr. Aid Design 3	Med	hanics Elective3
U	103 Indiv. & Society	ME	493 Adv. Projects I2	Sys.	& Des. Elective
SVS.	& Des. Elective 4	Mech	anics Elective	Ther	mal Sci. Elective3
	C or Free Elective 4	Then	mal Sci. Elective3	ROT	C or Free Elective
4.50	- CANONES PORTER	Core	Fine Arts (p. 39) 3		·
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## Materials Engineering

The curriculum in Materials Engineering is administered by the Department of Mechanical

Engineering of the College of Engineering.

The curriculum includes both the design of materials and materials processes to meet specific needs. Materials engineers are employed in the basic metallurgical, ceramics, plastics, electronics, aerospace, mechanical, process, chemical and nuclear power industries.

The curriculum in Materials Engineering includes the basic sciences, engineering sciences,

and particularly the science of the relationship of structure to properties.

Materials Engineering courses include the subjects of ceramic, metallic and plastic materials design with emphasis on the structure of each type and its influence on the properties and performance in service. Fundamental relationships are emphasized to prepare the engineer to effectively meet modern design challenges that will be encountered.

## Curriculum in Materials Engineering (MTL)

	FRESHMAN YEAR	
	(See Pre-Engineering Curriculum)	
	SOPHOMORE YEAR	
First Quarter	Second Quarter	Third Quarter
MH         264 An. Geom. & Calc.         5           PS         221 Gen. Physics II         3           PS         221 LGen. Physics Lab.         1           EGR         205 Engr. Mech. Stat.         3	PS 222 Gen. Physics III	EGR 201 Thermodynamics I
MTL 210 Struct. of Mtls	EH 220 Great Books I	EH 221 Great Books II
	JUNIOR YEAR	
CH 507 Phys. Chem	CH 508 Phys. Chem or CH 207 Org. Chem 5 EH 404 Tech. Writing 5 MTL 337 Phys. An. of Mils. II 3 U 101 Soc., Cult. & Env. 3	MTL 420 Struct. & Prop. Lab       3         MTL 436 EMS-Fer Mettgy       3         MTL 447 Mech. Engr. Mitis       3         EE 301 Engr. Instru       3         U 102 Polit Econ       3         Tech. Elective (see dept.)       3
	SENIOR YEAR	
MTL     448 Intr. Ceramics     3       MTL     513 Intr. X-ray Cryst     3       MTL     515 Polymer Tech. I     3       MTL     550 Therm. of Mtls. Sys.     3       U     103 Indiv. & Society     3	MTL     514 X-ray Lab     3       MTL     575 Rate Proc. in Mils.     3       MTL     537 Manf. Processes     3       MTL     498 Adv. Projects I     2       ROTC or Free Elective     3       Core Fine Arts (p. 39)     3       TOTAL     202 QUARTER HOURS	MTL 570 El Prop. of Mila. 3 MTL 499 Adv. Projects II

# Department of Textile Engineering

The programs in the Department of Textile Engineering prepare students for careers in the textile industry. Textiles is a truly multi-disciplinary program, and frequently a career in this field will draw on knowledge from the other engineering fields, sciences, combinations of these, economics, business and others. The size and diversity of textiles and allied industries provide careers in manufacturing, research, machinery design, chemicals and dyestuffs, sales, styling and design, technical service and others. The student has the opportunity to prepare for graduate school if desired.

For students who want to plan their education path in conjunction with industrial experience, the Alabama textile industry cooperates with the Department of Textile Engineering through the

Cooperative Education Program.

The Textile Engineering Department conducts both applied and fundamental research. In cooperation with the Engineering Experiment Station and other segments of the university, the department serves textiles through the utilization of its facilities. In conjunction with research undertaken by the faculty, undergraduates may have the opportunity to conduct research in areas of their special interest.

The Department of Textile Engineering offers three curricula to prepare for a career in one of the many facets of the industry. Textile courses are combined with courses offered by other departments of the university to provide basic instruction in the fundamental sciences, engineering, technology, the humanities and the social sciences. The three curricula are:

Textile Chemistry — Students in this curriculum study the chemistry and physics of natural and man-made fibers and the theory and practice of textile dyeing and finishing. It prepares students for graduate work and careers as chemists and dyers in the textile, man-made fibers,

dyestuff and other industries allied to textiles.

Textile Engineering — The curriculum in Textile Engineering offers study in basic engineering. It includes engineering science, humanities, social sciences and the textile subjects for a fundamental understanding of the textile processes, materials and industry. It prepares students for graduate study and careers in textile research, engineering, production and management in the primary textile industry and allied industries, such as the manufacture of textile machinery and man-made fibers.

Textile Management and Technology — This curriculum prepares students for production, administrative and managerial positions in a textile career. In their junior and senior years students select courses in other disciplines through a technical elective sequence. These courses are from disciplines such as Consumer Affairs, Economics, Industrial Engineering, Management and Marketing. Entering students who are not proficient in college algebra are required to take five hours of algebra for no credit toward graduation.

## Curriculum in Textile Chemistry (TC)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
CH	111 Gen. Chom 4	CH	112 Gen. Chem 4	CH	113 Gen. Chem. Lab 4
CH	111LGen. Chem. Lab	CH	112LGen. Chem. Lab1	CH	113LGen. Chem. Lab 1
EH	110 Eng. Comp 5	PA	102 Intro. to Ethics5	PS	220 Gen. Phys. I
MH	161 An. Geom. & Calc	MH	162 An. Geom. & Calc	PS	220LGen. Phys. Lab 1 1
TT	101 Intro. to Tex 1	TT	102 Surv. Text. Ind 1	MH	163 An. Geom. & Calc 5
CSE	100 Intro. PC Appl 3	COM	100 Prof. Com	TT	103 Text. Careers
			1211-1-10110-1010-0010-0010-0010-	Free	Electives or ROTC
			SOPHOMORE YEAR		
CH	207 Org. Chem 4	CH	208 Org. Chem 3	CH	209 Org. Chem 4
CH	207LOrg. Chem. Lab 1	CH	208LOrg. Chem. Lab	CH	209LOrg. Chem. Lab
MH	264 An. Geom. & Calc	MH	265 Lin. Diff. Equations3	Free	Elective or ROTC3
PS	221 Gen. Physics II 3	IT	211 Yam Form Sys. I	TT	221 Fab Form Sys
PS	221LGen, Physics Lab II1	EH	221 Great Books II5		minimum sees and think him min.
EH	220 Great Books I 5		NORMAL TOTAL OF THE PARTY OF TH		
			JUNIOR YEAR		
CH	305 An. Chemistry 3	Free	Elective or ROTC3	EH	404 Tech. Writing 5
CH	305L An. Chemistry Lab 2	TE	340 Tex. Chem Proc. I 4	TE	341 Tex. Chem. Proc. II 4
Core	History (p. 39) 3	TT	270 Stat Tex. Proc. Cont 5	EC	200 or 202 or 3015
TE	331 Str. & Pr. of Fibers 4	Core	History (p. 39)	Core	History (p. 39)3
TE	332LFibers Lab 2		>= 14444010010010010010000000000000000000		
TMT	322 Non-Conv. Fab. Struc 2		· · · · · · · · · · · · · · · · · · ·		
			SENIOR YEAR		
CH	507 Phys. Chem 4	CH	508 Phys. Chem	TC	491 Undergrad. Res. II 3
CH	507L Phys. Chem. Lab 1	TC	490 Undergrad Res. I	TC	560 Text. Finishes 4
TT	350 Test. of Tex. Mtl 4	U	102 Political Economy	U	103 Indiv. & Society
U	101 Soc., Cult. & Env 3	1E	360 Engr. Econ. Anal		Fine Arts (p. 39)
TC	441 Appl. Dye Theory4			Free	Elective or ROTC3
			**************************************		

#### TOTAL - 201 QUARTER HOURS

# Curriculum in Textile Engineering (TE)

		FRESHMAN YEAR		
First Quarter		Second Quarter		Third Quarter
MH 161 An. Geom. & Calc 5	MH	162 An. Geom. & Calc	MH	163 An. Geom. & Calc 5
CH 103 Fund Chem. 1 4	CH	104 Fund, Chem. II	PS.	220 Gen. Physics 1
CH 103LGen. Chem. Lab 1	CH	104LGen. Chem. Lab	PS	220LGen. Physics Lab 1
CSE 120 Intro. Engr. Comp 3	EH	110 Eng. Comp5	PA	102 Intro. to Ethics 5
TT 101 Intr. to Tex	TT	102 Surv. Tex. Ind1	TT	103 Text. Careers 1
Core History (p. 39) 3	Core	History (p. 39)	Core	History (p. 39)
		SOPHOMORE YEAR		
MH 264 An. Geom. & Calc	MH	265 Lin. Diff. Equations3	EH	221 Great Books II 5
PS 221 Gen. Physics II	PS	222 Gen. Physics III	CH	208 Org. Chem
PS 221LGen. Physics Lab II 1	PS	222LGen. Physics Lab III 1	CH	208 Org. Chem. Lab
COM 100 Prof. Comm 3	CH	207 Org. Chem	EGR	205 Engr. Mech. Stat 3
EH 220 Great Books I 5	CH	207 Org. Chem. Lab 1	TT	221 Fab. Form Sys 5
	TT	211 Yam Form, Sys. I		
		JUNIOR YEAR		
EGR. 235 Dynamics I	TE	340 Tex. Chem. Proc. 1 4	EGR	201 Thermodynamics 3
TE 331 St.&Pr. of Fibers 4	TE	360 Mec. Flex. Str	EH	404 Tech: Writing 5 or
TE 332 Fibers Lab 2	TT	270 St. Text. Proc. & Cnt 5	TE	341 Tex. Chem. Proc. II 4
TT 350 Test. of Tex. Matl 4	U	102 Polit Econ	TE	355 App. Num. Dsg. in Tex 3
U 101 Soc., Cult. & Env 3		14011-14001101001-04000-04000-0400	U	103 Indiv. & Society 3
Free Elective or ROTC				

#### College of Engineering

			SENIOR YEAR		
EC	200, 202 or 301 5	IE	360 Eng. Ec. Anal	Tech.	Elective or ROTC9
TE	460 Mech. Tex. Man 4	TE	450 Tex. Reinf. Mat	TE	491 Tex. Engr. Design II 3
EE	302 Intr. to EE	TE	425 Engr. Tex. Struc	Tech.	Elective3
CSE	300 St. Prog. Eng. & Sci 3	TE	490 Tex. Engr. Design I 3		management and the contract of
		Core	Fine Arts (p. 39)3		

TO satisfy the technical elective credit in the Textille Engineering curriculum, students may take any combination of the following approved courses, which are listed in groups of recommended career emphases. Taking an emphasis provides some advantage since these can be identified and listed on one's resume. The approved emphases below are limited to a maximum of 12 credit hours toward graduation. INDUSTRIAL EMPHASIS: IE 301, 341, 343, 401, 422, 425, 482. MATERIALS EMPHASIS: MTL 210, 220, 320, 336, 337, 240, 515, 537. COMPUTER SCIENCE EMPHASIS: CSE 200, 220, 301, 350, 360, 412, 422. APPAREL PRODUCTION EMPHASIS: CA 140, 240, 316, 340, 516, 521, 540, . MACHINE DESIGN EMPHASIS: ME 230, 370, 397, 454, 475, 485. ENVIRONMENTAL EMPHASIS: CS 310, 320, 420, 421, 523, 524. ADVANCED TEXTILES EMPHASIS: TT 299-up 10 6 credits, TE 409 - up to 10 credits. ROTC EMPHASIS: EB 301, 303, EGR 207. MH 266, 362.

## Curriculum in Textile Management and Technology (TMT)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
EH MH CH CSE	110 Eng. Comp. 5 160 Pre-Calc. w/ Trig. 5 101 Intr. Chem. 1 2 100 Intr. PC Appl. 3 101 Intr. to Tex. 1	PA MH CH CH TT Free	102 Intro. to Ethics	MH CH CH TT	History (p. 39)
	220 Great Books 1	TT TT EH	\$0PHOMORE YEAR 211 Yn. Form. Sys. I		200 Fd. of Physics
			JUNIOR YEAR		
AC EC TT U	215 Fnd. Gen. Cost Acct	TMT TMT TMT U	320 Dv. & An. Fab	U	404 Tech. Writing 5 232 Tex. Fib. II 3 242 Chem. Tech. B. D & F 3 103 Indiv. in soc. 3 Fine Arts (p. 39) 3
			SENIOR YEAR		
MN TMT TMT TMT Tech	310 Prin. of Mgt		314 Intr. MIS	Tech	1. Elective (see dept.)

TOTAL - 196 QUARTER HOURS

See department for approved list of technical electives. See department for approved EC substitutions.

# School of Forestry

EMMETT F. THOMPSON, Dean GEORGE W. BENGTSON, Associate Dean

THE SCHOOL OF FORESTRY offers educational programs which prepare graduates for employment in a variety of forestry, natural resources and environmental positions. As the nation's major renewable natural resource, forests have a unique role to play in today's society in terms of enhancing both economic development and environmental quality. The School of Forestry's programs emphasize vital functions of forest resources and their vital relationships with other natural resources and society's needs.

#### Curricula

The School of Forestry offers curricula leading to bachelor of science degrees in forest resources and forestry operations. A curriculum leading to the bachelor of science in forest engineering is offered in conjunction with the College of Engineering. The School also offers an honors program which leads to the Bachelor of Science in Forestry (Honors Program).

The School's goals are to develop excellence in forestry education, research and extension with particular reference to the forests and associated resources of the Southeastern United States. With respect to undergraduate education, this means graduating individuals who have both the necessary skills for initial employment and the breadth and depth of educational back-

ground to support continuing career advancement.

The educational programs in forest resources, forestry operations and forest engineering (forest resources concentration) leading to the Bachelor of Science degree are accredited by the Society of American Foresters (SAF). SAF is the specialized accrediting body recognized by the Council on Postsecondary Accreditation and the U.S. Department of Education as the accrediting agency for forestry education in the United States. The forest engineering curriculum is also accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET).

#### Admission

Freshman eligibility is determined by the Admissions Office. However, since the requirements for forestry education necessitate high school preparatory work of high intellectual quality and considerable breadth, the following program is recommended as minimum preparation - English (4 units), mathematics (including algebra, geometry, trigonometry and analytic geometry) (4 units), chemistry (1 unit), biology (1 unit), history, literature, social science (2 or 3 units). Physics and foreign language are recommended but not required. Freshmen are admitted to the preforestry curriculum.

Transfers from other institutions must apply through the Admissions office. The exact placement of transfer students can be determined only upon review of their transcripts by the School of Forestry. Transfer credit will not normally be allowed for any course with a grade lower than C at

another college or university.

Credit toward a degree in any curriculum in the School of Forestry will not be allowed for mathematics, chemistry or physics courses at a lower level than those specified in the curriculum for the degree sought. However, students who are not prepared to take the course prescribed

may take lower level courses without degree credit.

Transfer credit for forestry subjects not considered equivalent to those required in the chosen curriculum may be substituted for elective credit. However, duplication of credit will not be allowed. Equivalency of forestry subjects will be determined by the dean's office. Students may also obtain transfer credit on the basis of validating examinations. Arrangements for validating examinations must be made with the Dean of Forestry, and the examinations must be completed before the middle of the second quarter. Transfer credit for courses considered upper division courses at Auburn University will not be accepted from two-year colleges.

The professional curricula in forest resources and forestry operations begin with the courses in the School of Forestry Summer Field Practicum. Students are admitted to the professional Forest Engineering curriculum upon successful completion of the Pre-Forest Engineering program in the College of Engineering with a grade-point average of 2.2 or greater. Students in all three curricula attend the practicum which is scheduled for the Summer Quarter preceding the junior year and is

held at Auburn's Solon Dixon Forestry Education Center near Andalusia.

Students will be admitted to the School of Forestry professional curricula once a year during Spring Quarter. To be considered for admission to a professional forestry curriculum, a student must have completed, or be enrolled in, at least 75 percent of the credits listed in the pre-forestry curriculum. These credits must include all required courses in mathematics, biology, English, chemistry, physics and computing.

In addition, students admitted to a professional forestry curriculum must have a minimum weighted grade-point average, computed only on courses that can be used for progress toward that undergraduate forestry degree (applicable courses), of 2.0. The weighting formula used for admission is available from the dean's office. Exceptions to these standards must be recommended by the Faculty Admissions Committee and approved by the Dean of the School of Forestry.

Because admission to the professional forestry curricula is limited, the number of students admitted may be fewer than the number of qualified applicants. Students who submit completed applications (including transcripts for transfer students) for admission to the Summer Field Practicum by March 15 each year will be ranked, using weighted grade-point average, and those not selected may reapply in subsequent years. Forest Engineering majors must meet School of Forestry requirements for admission to the Summer Field Practicum.

To remain enrolled in professional forestry curricula, students must maintain minimum gradepoint average standards as established by Auburn University.

### Forest Engineering

Forest engineering is a multi-disciplinary science dealing with one of our most important natural resources - forests - and the mechanical devices and processes for their efficient utilization. Forest engineers are professionally trained to apply engineering and forestry principles to solve operations problems in regenerating, growing, harvesting, handling, transporting and processing timber. In addition, they also deal with the engineering problems related to other forest resources.

The curriculum is jointly coordinated by the College of Engineering and the School of Forestry. Students register in the College of Engineering and are assigned academic advisors in Agricultural Engineering and in Forestry. Beginning students should apply to the College of Engineering and complete the Pre-Forest Engineering program. For qualified pre-forestry students who develop an interest in Forest Engineering during the freshman year, an alternate course sequence for completion of the Pre-Forest Engineering program under the guidance of two advisors, one from Agricultural Engineering and one from Forestry, is available in the School of Forestry.

## Curriculum in Pre-Forest Engineering (PFYE)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	161 An. Geom. & Cal 5	MH	162 An. Geom. & Cal	MH	163 An. Geom. & Cal
CH	103 Fund. Chem. & Lab 4	EH	110 Eng. Comp5	PS	220 Gen. Physics
CH	103LGen. Chem. Lab 1	Core	Fine Arts (p. 39)	PS	220LGen.Phys. Lab / 1
CSE	120 Intra. Engr. Comp 3	HY	122 or 102	PA	102 or 2195
HY	121 or 101	ROT	C or Free Elective 1	HY	123 or 103
ROTO	or Free Elective 1			ROT	C or Free Elective1

## Curriculum in Forest Engineering (FYE)

			SOPHOMORE YEAR	
MH PS PS FYE EGR ROTI	264 An. Geom. & Cal	MH PS PS EGR BI ROTO	265 Diff. Equat	CE       303 Civil Engr. Stat       4         EGR 201 Thermodynamics I       3         EGR 235 Dynamics       3         EH 220 Great Books I       5         ROTC or Free Elective       1
			UMMER FIELD PRACTICUM	
		FYE FY FYE FY	300 Intro. Forest Oper     2       302 Intro. Forest Biol.     2       304 Forest Surveying     5       305 Field Mensuration     4       306 Intro. Forest Mgt.     2	
			JUNIOR YEAR	
EE FY CE U FY	302 Intr. Elec. Engr. I	FYE CE FY FYE	311 Mob. Equip. Des. Fund 4 430 Intr. Soil Mechanics 4 319 Forest Meas. II	FYE 401 For Mach. Des

#### School of Forestry

#### SENIOR YEAR

FYE	403 App. Struct. An. & Des3	FYE 430 Engr. Des. Bio. Syst. I 4	FYE 530 Engr Bio, Syst. II
FYE	509 Hydr. Cont. Systs 4	FYE 402 For Transp. Syst Des 3	FYE 572 Engr. For.Hv.Sys 4
U	102 Political Economy 3	Engineering Elective4	U 103 Indiv. in Society 3
EH	404 Tech. Writing 5	FY 540 Forest Economics4	Technical Elective

TOTAL - 210 QUARTER HOURS

Six hours of Advanced ROTC may be substituted from six hours of Techical Electives.

## Forestry

The objectives of the forestry curriculum are to provide: 1) the fundamental knowledge regarding the resources that professional foresters typically manage and the multiple uses of those resources; 2) a general education integrating physical, social and biological sciences to prepare the forester for the role as steward of public and private forest resources; 3) training and skills needed for initial forestry employment, as well as for advancement to higher levels of managerial responsibility. The forestry degree is appropriate for students who seek employment in any aspect of forest land management from industrial lands where timber production is the primary objective to public lands where recreation or environmental protection is sometimes paramount. The curriculum emphasizes biological and economic considerations in forest management.

The required courses in the junior year are designed to be taken as a block. The work in them is integrated among courses in each quarter and between quarters. Students who fail one or more courses in the fall or winter quarters jeopardize their ability to continue through the junior year. Students need to pay careful attention to the prerequisites of the junior year courses, which are strictly enforced by the School, to successfully complete that part of the forestry program.

Forestry students are required to meet the minimum requirements of at least two concentrations, and students are required to have a minimum of 28 quarter credit hours in concentrations. The approved concentrations are listed below the curriculum model. More information about planning for the concentrations is available at the School of Forestry.

## Curriculum in Pre-Forestry (PFY)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
EH	110 Eng. Comp 5	PS	200 Found, of Phys	CH	103LGen. Chem. Lab 1
BI	101 Prin. Biology 5	BI	102 Plant Biology 5	CH	103 Fund, Chem. I
HY	101 World History 3	MH	161 An. Geom. & Cal	HY	102 World History 3
Core	Fine Arts (p. 39)		lestermanamanamanamanamana.	U	101 Soc. & Culture
	-12-14-14-14-14-14-14-14-14-14-14-14-14-14-		***************************************	MH	169 Bus. Math w/Calc 5
			SOPHOMORE YEAR		
CH	104L Gen. Chem. Lab 1	HY	103 World History 3	Core	Philosophy (p. 39)5
CH	104 Fund. Chem. II 4	DMS	215 Bio. Statistics 5	CSE	100 PC Applications3
EC	301 Econ. & Bus. Policy 5	EH	221 Great Books II	U	103 Indiv. & Society
EH	220 Great Books I 5	U	102 Political Economy3	AY	305 Gen. Solls 5

# Curriculum in Forestry (FY)

		FY FYE FYE FYE	306 Intro. For. Mgt		
FY FY Cond	320 For. Tree Phys		319 For. Meas.II	FY	541 For. Mgt. & Adm
			SENIOR YEAR		
Conc	tent/Elective	FY	Adv. Composition (p. 39) 5 sent./Elective		590 Seminar

#### CONCENTRATIONS

Forest Resources (must pass a minimum of 12 hours from the following): ZY 205, FY 463, 460, 524, 565, 525, 548.

Forest Operations (must pass all of the FY and FYE courses and at least 11 of the remaining hours): FYE 370, 571, FP 420, 535, 521, FY482, 483, CHE 501.

Forest Products Manufacturing (must pass a minimum of 12 hours from the following): FP 532, 534, 475, 474, 537,

CHE 501.

Harvesting/Procurement (must pass a minimum of five hours from the following): FYE 370, 571, FY 482, 483.

#### School of Forestry

Ecology (must pass a minimum of 10 hours from the following): ZY 306, FAA 401, BY 513. Fisheries (must pass a minimum of 10 hours from the following): FAA 401, 536, 537, 538, 539.

Natural History/Taxonomy (must pass a minimum of 10 hours from the following): BY 506, ENT 304, 505, FAA 538, ZY 402, 574, 575, 576.

Urban Forestry (must pass FY 565 and a minimum of five hours from the following): HF 221, 222, 521, CP 501. Economics (must pass a minimum of seven hours from the following): FY 548, EC 340, 551, 556, AEC 509, 512. Forest Policy (must pass a minimum of nine hours from the following): FY 344, EC 340, 471, PO 209, 210, 325, 327. Social Perspectives (must pass a minimum of seven hours from the following): (either RSY 261 or SOC 201), RSY 362, 561, 564, 565, GY 504, 507, FY 344.

Business (must take AC 215 and five hours from the following): FI 351, MN 310, MT 331.

Quantitative Studies (must MH 162, 163 and six hours from the following): MH 264, 265, 266, DMS 568, 567, 569, CSE 200, 220, IE 341, 343.

Wildlife (must pass eight hours from the following): ZY 328 + L, 528 + L, 425, 527, 531, BY 506.

## Honors Program in Forestry

The Honors Program in Forestry provides able students the opportunity to explore in depth areas in which they are interested and to prepare for graduate school. The program is flexible, permitting concentration of effort in areas of the student's choosing.

Students with at least five quarters remaining in the Forestry curriculum, and with a grade-point

average of 2.9 or better, may apply for admission to the program.

The curriculum model is identical in the first three years to the nonhonors model presented above. The senior year is then open for concentrations and electives, except that Advanced Composition (EH 400, EH 404, or EH 408, as provided in the University Core requirements), FY 590 Seminar (1), and FY 499 Honors Project (2-5) must be taken. Students must build at least two concentrations from those designed by the faculty and listed under the forestry program, or designed under the guidance of a faculty advisor. Honors students must have at least 32 credit hours in concentrations. Students then have 13-16 credit hours of free electives, depending on their credit hours of Honors Project. The senior year is shown below.

	SENIOR YEAR	
First Quarter	Second Quarter	Third Quarter
Concentration/Electives	EH Adv . Composition (p. 39) 5	FY 590 Seminar 1
***************************************	Concentration/Electives12	FY 499 Honors Project2-5
>10010010110101010111111111111111111111	***************************************	Concentration/Electives 11-14
	TOTAL - 202 QUARTER HOURS	

# School of Human Sciences

JUNE M. HENTON, Dean ARTHUR W. AVERY, Associate Dean DOROTHY H. CAVENDER, Assistant Dean

HUMAN SCIENCES is a professional program drawing on a foundation from the natural and social sciences, the arts and humanities. It integrates and interrelates knowledge from these disciplines to promote the well-being of individuals and families. The course of study provides students with a broad liberal education, specialized career preparation, as well as a background for individual and family living. Areas of specialization focus on many aspects of environment, health and human development. Human Sciences offers men and women professional and preprofessional preparation for a variety of careers available in education, business, industry, social agencies and government.

Programs of study leading to the Bachelor of Science degree can be planned within six curricula in the School of Human Sciences. These curricula are designed with flexibility to meet the needs of students with varying interests. The School includes the Departments of Consumer Affairs, Family and Child Development and Nutrition and Food Science.

Graduation Requirements: To earn the bachelor's degree from the School of Human Sciences, students must complete the hours and subject matter requirements of their curricula and must have a minimum cumulative grade-point average of 2.0 on all course work attempted at Auburn University, and in addition, a 2.0 cumulative GPA on all work attempted in the major.

Transfer credit will not normally be allowed for any course passed with a grade lower than C at any other college or university.

## Department of Consumer Affairs

The Department of Consumer Affairs focuses on consumers' interactions with their near physical environment. Three majors are offered: Apparel and Textiles, Fashion Merchandising, and Interior Environments. These curricula focus on principles of design, apparel product development, management, science and technology and consumer behavior. Majors in these curricula may lead to careers in business, industry and government which apply knowledge to developing, evaluating and merchandising consumer products, interpreting consumers' wants and needs, informing consumers and designing environmental spaces. A 10-week senior level internship is required in all three curricula.

# Apparel and Textiles

Apparel and Textiles is a professional curriculum with two options providing preparation and specialization related to students' professional goals. Diversity within the major allows students to select among such varied fields as apparel design, fashion promotion, fashion journalism, apparel production management and consumer-producer relations. Located in the heart of the textile and apparel industry, a unique interdisciplinary structure exists between Apparel and Textiles, Textile Engineering, the College of Business, the Agricultural Experiment Station (research) and the Cooperative Extension System on the campus.

The two options are Apparel Design and Apparel Production Management. Students take the 153 quarter hour curriculum core and focus on one an option, taking 18-25 hours of specified professional courses, 16-18 approved professional electives and 10-15 hours of free electives.

### Curriculum in Apparel and Textiles (APT)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
MH 160 Pre-Cal. w/Trig 5	U 101 Soc. & Culture	U 102 Political Economy 3
CA 115 Textile Complex	CA 116 Art for Liv	FCD 157 Fam. Hum. Dev
EH 110 Eng. Comp 5	Core History (p. 39) 3	Core History (p. 39)
Core History (p. 39)	CH 103 Fund. of Chem. 1*	CH 104 Fund. of Chem. II
	CH 103L Gen. Chem. Lab	CH 104L Gen Chem Lab 1
	Electives 3.	Elective3
	SOPHOMORE YEAR	
CA 140 App. Prod. Dev. J	NFS 200 Nutr. & Health3	FCD 200 Mgt. for Cons 4
CA 226 Apparel Design 3	EH 220 Great Books I5	EH 221 Great Books II 5
U 103 Individual & Society 3	CA 205 Soc./Psy. of Clothing 3	CA 240 App. Prod. Mgf. 1
CH 203 Org. Chem. 5	Electives 7	Electives

#### School of Human Sciences

	JUNIOR YEAR	
CA 305 Textiles 5	EC 301 or 202 5	CA 540 App. Prod. Dev. II 5
Core Philosophy (p. 39) 5	CA. 334 Intro. to Intern	Core Fine Arts (p. 39)
EH Adv. Comp. (p. 39) 5	CA. 516 App. Qual. Analysis 3	Electives
CA 330 Prof. Planning 1	CA 340 App. Prod. Mgt. II	**************************************
Elective	CA 535 Text. Testing	secretariana and department of the secretarian secre
	SENIOR YEAR	
CA 525 Hist. of Costume	CA 521 World Production	CA 581 Internship12
CA 524 Fashion Change 3-	Electives 11	· · · · · · · · · · · · · · · · · · ·
Electives		ideatistici paninimionomonom

TOTAL -204 QUARTER HOURS

## Fashion Merchandising

Fashion Merchandising prepares students for careers in retail buying, retail management and visual merchandising. Positions include buyer, department or store manager, merchandise manager, store owner, product developer and fashion or special events coordinator. It is strongly recommended that students obtain work experience in some aspect of retailing prior to beginning an internship. Foreign language skills are highly desired; up to 10 hours of foreign language may be used as professional electives.

## Curriculum in Fashion Merchandising (FM)

		FRESHMAN YEAR	
MH 160 Pre-Cal. w/Trig CA 115 Textile Complex EH 110 Eng. Comp. Core History (p. 39)	5 FCD 5 Core I 3 CH CH	116 Art for Liv. 3 157 Fam. Hum. Dev. 3 History (p. 39) 3 103 Fund. of Chem. I 4 103LGen. Chem. Lab. 1 1985 3 SOPHOMORE YEAR	NFS 200 Nutr. & Health
CA 140 Ap. Prod. Dev. I CA 226 Apparel Design CH 203 Org. Chem U 102 Political Economy	3 EH 5 U 3 Electro	211 Prin. Accounting	CA 240 Ap. Prod. Mgmt. I
EC 301 or 202	5 CA 1 CA 5 CA	JUNIOR YEAR  331 Prin. of Mkt	CA 325 Mdse Planning 5 MN 310 Prin. Mgt 5 Prof. Electives 3 EH Adv. Comp. 5
CA 525 Hist. of Costume CA 524 Fashion Change MN 342 Hum. Res. Mgt Prof. Electives	3 CA 5 Prof. 1	\$ENIOR YEAR  522 FM and Retail Mgf	CA 581 Internship12

TOTAL — 204 QUARTER HOURS

Professional Electives: Twenty-one hours of approved professional electives are required including at least five hours of CA courses and at least five hours of business courses. Students may use up to 10 hours of foreign language courses as professional electives.

#### Special Focus in International Retailing

Students desiring a Special Focus in International Retailing should select the following courses as Professional Electives: MT 341, 440 and CA 538. CA 581 (internship) should be done in Europe, Asia, Latin America, Africa, Australia or Canada. Foreign language courses may be used for professional electives. See advisor.

#### One-Year Transfer Programs

Qualified students in Apparel and Textiles or Fashion Merchandising may apply for one-year transfer programs to be taken during the junior year. Programs are available with the Fashion Institute of Technology in New York in apparel and textile design or merchandising and with the Southern Technical College in Marietta, Ga. in apparel engineering. Transfer programs are planned with an advisor so that transfer credits meet Auburn curriculum requirments while the student earns an Associate Degree from the transfer institution. For details, contact the head of the Department of Consumer Affairs.

^{*} Chemistry may be started with CH 101. See advisor for details.

^{*} Chemistry may be started with CH 101. See advisor for details.

#### One-Quarter Internship Programs

Students majoring in Fashion Merchandising, Interior Environments or the Apparel Design and Apparel Production Management Options of the APT curriculum are required to arrange an internship away from campus during one quarter of the senior year. To earn credit, internship site and work-study program must be approved by the student's advisor.

#### Interior Environments

The Interior Environments curriculum focuses on the design of the near environment, the aesthetic and functional aspects of space planning, furnishings and materials, mechanical equipment and the integration of these aspects of the built environment to fit the needs of the user.

Many career opportunities are open to graduates of the INE program. These include positions in design firms, private design practice, kitchen/bath design, lighting design and retail furnishings. A professional option, Specialization in Kitchen and Bath Design, is offered in the INE curriculum.

All INE majors are required to complete a professionally supervised internship.

## Curriculum in Interior Environments (INE)

			FRESHMAN YEAR		2	
	First Quarter		Second Quarter		Third Quarter	
CA	100 Orient to INE	CA	120 Tech Drawing		121 Spatial Analysis 3	
CA	116 Art for Liv. 1	FCD	157 Fam. Hum. Dev	NES	200 Nutr. & Health	
MH	160 Pre-Cal. w/Trig 5	Core	History (p. 39)	FCD	200 Mgt. for Cons 4	
EH	110 English Comp 5	Core	Science (p. 39)5	Core	Core History (p. 39)	
Core	History (p. 39)	AT	171 or 172 or 173	Core Science (p. 39) 5		
	tive or ROTC1	Elect	ive or ROTC1		Elective or ROTC 1	
			SOPHOMORE YEAR			
CA	221 Res. Space Plan 4	CA	222 Furn. for Interiors 4	CA	215 Sur. of Dec. Arts I 5	
EH	220 Great Books I 5	CA	224 Fund. of Visual Pres 3	CA	223 Res. Interiors I	
U	101 Societies & Cult 3	CA.	255 Tex. for Inter	U	103 Indiv. in Society 3	
PA	101 or 102 or 219 5	EH	221 Great Books II 5	CSE	100 Intro. to PC Appl. 3	
	Elective or ROTC		U 102 Pol. Econ3		tive or ROTC1	
-		Elect	ive or ROTC1			
			JUNIOR YEAR			
CA	315 Sur. of Dec. Arts II 3	CA	333 Lighting Des5	CA	353 Bus. Prac in INE	
CA	324 Non-Res. Int. I	Prot.	Elective or ROTC3	CA	363 Env. Sys./Energy Mgt 3	
EC	301 Econ. Prin. & Bus. Pol 5	CA	344 Codes & Access	CA	424 Non-Res. Int. II	
AC	211 Accounting 4	MT	331 Prin. of Mkt	EH	408 Bus. & Prof. Writing 5	
CA	336 Orient, to Intern INE 1		100140000400040000000000000000000000000		110010110101101101101101101101101101101	
			SENIOR YEAR			
CA	422 Kit. & Bth. Plan 5	CA	423 Res. Interiors4	CA	436 Internship in INE	
CA	478 Visual Merch 3	Prof.	Electives 12		inclusion-manuscrimonionomoros	
Prof.	Elective 5		reminerosteramina - Titratigus		Limitaria de la company de la	
Elec	tive or ROTC				***************************************	
		70	TAL 202 OHADTED HOUDE			

#### TOTAL — 202 QUARTER HOURS

#### SUGGESTED PROFESSIONAL ELECTIVES

Business and Consumer Orientation (minimum of 10 hours): ACF 212; MN 310; MT 241, 242, 332, 333, 337, 341; CA 431; FCD 528.

Applied Design (minimum of five hours): HF 221, 225, 226, 412; AT 101, 102, 103, 104, 105, 111, 112, 113, 121, 122, 123; FP 370; BSC 203; CA 216; CP 524, 525, 527, 545.

Design Support (minimum of five hours): BSC 202; AT 370, 371, 372, 373, 374, 375, 376, 377, 378, 379; AR 261, 262, 263, 360; PG 465; CA 399, 515, 580D; FP 301, 302, 339.

#### Specialization in Kitchen and Bath Design

Students who desire a Specialization in Kitchen and Bath Design must complete professional electives requirements (20 hours) from the following: 10 hours from BSC 202, 203, CA 490 (Independent Study in CAD) and 10 hours from AC 212, MN 310, MT 241, 333, 347 and FI 361. CA 436-Internship in Interior Environments (12 credit hours) must be completed with a Kitchen and/or Bath Design firm. Completion of the Kitchen and Bathroom Specialization prepares the graduate to take the examination for professional certification. This professional option within the INE curriculum is endorsed by the National Kitchen and Bath Association.

## Department of Family and Child Development

The Department of Family and Child Development is concerned with the integration of knowledge from various fields for the purpose of studying individuals and families across the lifespan. The department offers a course of study to prepare students for a variety of careers, including teaching and administering programs for young children, adolescents and adults; parent education; mental health or family financial counseling; and Cooperative Extension. One undergraduate curriculum, including three options, is offered by the department. These options are Infancy and Preschool, School-age and Adolescence, and Adult and Aging.

## Curriculum in Family and Child Development (FCD)

4000000	FRESHMAN YEAR	The same of the sa
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp 5	BI 105 Pers. in Bio	BI 106 Hum. Biol
FCD 157 Fam. Hum. Dev	U 102 Political Economy3	U 103 Indiv. & Society
U 101 Soc., Cult. & Env 3	Core History (p. 39) 3	Core Philosophy (p. 39)5
Core History (p. 39)	Electives or ROTC	Core History (p. 39)3
Elective or ROTC	>==Q==================================	Elective or ROTC1
	SOPHOMORE YEAR	
EH 220 Great Books 1 5	EH 221 Great Books II	NFS 200 Nutr. & Health
FCD 200 Mgt. for Cons 4	CA 116 Art for Liv	SOC 201 Social or
FCD 267 Hum Dev	FCD 269 Mate Select	PG 201 Psychology3-5
FCD 287 Careers 2	Elective or ROTC	MH Core Math (p. 39)5
Elective or ROTC1		Core Fine Arts (p. 39)
		Elective or ROTC1
	JUNIOR YEAR	
FCD 306 Fam Interact	FCD 301 Early & Mid. Child. Dev 5	FCD 308 Rel Comp3
EH 404 Tech Writ or	Prof. Electives	FCD 473 or 475 or 477
EH 408 Bus. & Prof. Writ 5	Electives	Prof. Electives 7-9
SOC 220 Stat. **		ORDER STREET,
PG 315 Quant. Meth 5		
TO SIS GUART, MEDIT	SENIOR YEAR	
ton market for		FCD 497 Internship *** 5-15
FCD 304 Hum Sevuality 4	FCD 420 Rec. Research	Prof. Electives 0-10
Electives 4	Electives	
Prof. Electives	Prof. Electives	THIBHIBH BUILDIO (0) (0) (0) (0) (0)

TOTAL - 185 QUARTER HOURS

- Students focus on one of three options by taking 16-28 hours of specialized professional electives and 5-15 hours directed internship
- MN 207 or CSE 204 may be substituted for the Statistics requirement by student who will focus their internship on the consumer and family economics area.
- **** Credit hours for Curriculum Requirements for Major (i.e., departmental major courses, required supporting courses and required professional electives) must total 85. The Internship Handbook contains information regarding recommended professional electives for specific internship types. Applications for the internship must be submitted to the Internship Director three (3) quarters in advance of the proposed internship quarter.

# Department of Nutrition and Food Science

The Department of Nutrition and Food Science offers two majors: Hotel and Restaurant Management and Nutrition and Food Science. The Hotel and Restaurant Management program emphasizes food and lodging services for consumers in the tourism industry. The major in Nutrition and Food Science offers three options: Nutrition/Dietetics, Food Science and Nutrition Science. Nutrition is concerned with human physiology and biochemistry and their relationship to human health, diet and well-being. The Nutrition/Dietetics option meets the competencies of the American Dietetic Didactic Program in Dietetics (DPD) to prepare students for the post-baccalaureate training (dietetic internship or advanced preprofessional practice program) needed to sit for the registration exam for dietitians. Food Science utilizes the biological and physical sciences to study the nature of foods and the principles underlying food production and processing. The Nutrition Science Option provides outstanding pre-medical preparation as well as a solid foundation for graduate study. These curricula lead to a variety of careers in health care, business and industry, government and education.

## Hotel and Restaurant Management

The Hotel and Restaurant Management major prepares students for careers in hotels, motels, restaurant facilities and other positions in the tourism and hospitality industry. The program is structured to address the needs of the premium service segment of the hospitality industry. The program mission is to educate men and women in the arts and sciences of hospitality management from a multi-cultural perspective, to prepare them with a thorough understanding of the

premium service concept in hotels, restaurants and clubs and to instill in them high standards of excellence for the performance of their professional responsibilities.

## Curriculum in Hotel and Restaurant Management (HRM)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
EH 110 Eng. Comp. 5 MH 160 Pre-Cal. w/Trig. 5 HRM 101 Intro. Hosp Mgt. 2 Core History (p. 39) 3	PA     219 Bus. Ethics     5       CSE     100 Intro. PC     3       Core History (p. 39)     3       Core Fine Arts (p. 39)     3       CA     116 Art for Living     3	NFS 200 Nutr. & Health         3           FCD 157 Fam. & Hum. Dev.         3           FCD 200 Mgt. for Cons.         4           COM 100 Prof. Comm.         3           Core History (p. 39)         3
	SOPHOMORE YEAR	
U 101 Soc. & Culture	U 102 Political Economy	MB 201 Pers. in Microbiol
0. 0.0000000000000000000000000000000000	JUNIOR YEAR	
NFS 304 Quan. Fd. Prep	MT 331 Prin. of Mkt	ADS 270 Comm. Meat Mgt. 5 GY 320 Int. Travel 3 MN 310 Prin. of Mgt 5 Prof. Elective 3
	SENIOR YEAR	
HRM 330 Hosp. Law	HRM 410 Rest Mgt	HRM 470 Adv. Rest. Mgt.       3         HRM 480 Adv. Bev. Mgt.       3         HRM 490 Prof. Int.       5         Prof. Electives or ROTC       6
	TOTAL - 201 QUARTER HOURS	

#### Nutrition and Food Science

Nutrition and Food Science is a curriculum with three options which permit specialization according to students' personal interests. The Nutrition/Dietetics option prepares students for careers in dietetics, nutrition and nutrition education programs. Opportunities are available for dietitians in clinical, research, community, management, education and consulting settings.

The Food Science option prepares students for careers in the foods industry in the area of quality control, product development and food safety, as well as with government agencies. Through electives, majors may focus on the business, communications, consumer education or retailing aspects of the foods industry. The Food Science option meets the educational requirements of the Institute of Food Technologists.

The Nutrition Science Option prepares students for health professional schools, such as medical, dental and physical therapy. This degree option also provides an excellent background for graduate study.

American Dietetic Association Plan V educational requirements will be met by the Nutrition option. The program is approved by the American Dietetic Association. Graduates choosing this option are required to complete an additional supervised practice experience in order to be eligible to take the national examination to become a Registered Dietitian.

## Curriculum Nutrition/Dietetics Option *

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
МН	160 Pre-Cal. w/Trig	5 CH	103 Fund. of Chem. I	CH	104 Fund. of Chem. II 4
BI	101 Biology	5 CH	103LGen. Chem. Lab	CH	104L Gen. Chem. Lab
U	101 Soc., Cult. & Env		110 Eng. Comp	CA	116 Art for Liv
Core	History (p. 39)		102 Political Economy3	U	103 Indiv. & Society 3
		. Core	History (p. 39)	Core	History (p. 39)
			SOPHOMORE YEAR		
ZY	250 Human Anatomy	5 ZY	251 Physiology5	CON	/ 100 Prof. Comm
EH	220 Great Books I	5 EH	221 Great Books II	FCC	200 Mgt. for Gons 4
NFS	200 Nutr. & Health	3 FCD	157 Fam. & Hum. Dev	NES	202 Food Prep
Elect	ive or ROTC	5 Core	Fine Arts (p. 39)	CH	203 Org. Chem 5
			JUNIOR YEAR		
EH	404 Tech. Writ	5 NFS	318 Nutr. Biochem 4	EC	301 Ec. Prin. & Bus
NFS	307 Survey of Diet	2 NFS	318L Nutr. Bioch. Lab 1.	NES	382 Macronutrition 5
CSE	100 Comp. Appl	3 SY	220 Statistics 5	Con	Philosophy (p. 39) 5
MB	300 Microbiology	5 NFS	304 Quant. Food Prep 5	Elec	tives or ROTC3

#### SENIOR VEAR

NFS 392 Macronutrition 5	NFS 502 Clin. Nutr. I	VED 415F Teach. Area of Spec. 5 NFS 456 Food Svc. Org. Adm 5
NFS 462 Community Nutrition 5	MN 310 Prin. of Management 5	Elective or ROTC7

## TOTAL - 196 QUARTER HOURS

Nine hours of professional electives and 12 hours of free electives.

## Food Science Option *

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
MH 160 Pre-Cal. w/Trig	CH 103 Fund. of Chem. I	CH 104 Fund. of Chem. II 4
BI 101 Biology 5	CH 103LGen. Chem. Lab 1	CH 104L Gen. Chem. Lab
NFS 200 Nutr. & Health 3	MH 161 An. Geom & Calc	EH 110 Eng. Comp 5
Core History (p. 39)	CA 116 Art for Liv	MH 162 An. Geom. & Calc 5
and the same of th	Core History (p. 39)	Core History (p. 39)3
	SOPHOMORE YEAR	
BI 102 Plant Biology 5	BI 103 Animal Biology5	U 103 Indiv. & Society
EH 220 Great Books 1 5	Core Fine Arts (p. 39)	NFS 202 Food Preparation 5
NFS 201 Intro. Food Sci. Tech 3	EH 221 Great Books II	PS 200 Found of Physics 5
U 101 Soc., Cult. & Env 3	U 102 Political Economy 3	CH 203 Org. Chem5
0 101 0001 001. 0 277	JUNIOR YEAR	
EH 404 Tech Writ	NFS 318 Nutr. Biochem4	MB 300 Microbiology5
AN 555 Prin. Food Engr. Tech 5	NFS 318L Nutr. Bioch, Lab	DMS 215 Intro. Biol. Statistics 5
CSE 100 Comp. Appl	NFS 543 Food Chemistry5	NFS 545 Food An. & Qual. Ct 5
HF 340 or ADS 470 and elect 5	Core Philosophy (p. 39)5	FCD 157 Fam. & Hum. Dev 3
THE SHOOT ADD TO BID BROKE	SENIOR YEAR	
		NEC COLF and Descript Day 6
NFS 577 Plant Sanitation	NFS 429 Sem. in NFS	NFS 564 Food Product Dev 5
COM 100 Prof. Communication 3	AEC 200 Ag. Econ4	MB 556 Food Micro5
FCD 200 Mgt. for Cons 4	Electives or ROTC 10	Electives or ROTC5
Electives or ROTC 4	(1145-4-1-1) (1-4-1-111101101101101101101101111111111	111110101010101010101010101010101111111

#### TOTAL - 196 QUARTER HOURS

9--10 hours of professional electives and 10 free electives.

## **Nutrition Science Option**

(Coordinate with Pre-Health Professions Advisor in COSAM.)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
CH	103 Fund. of Chem. 1	CH	104 Fund. of Chem. II	CH	105 Fund. of Chem. III 4
CH	103LGen. Chem. Lab 1	CH	104LGen. Chem. Lab	CH	105L Gen. Chem, Lab, 1
MH	161 An. Geom. & Calc 5	U	102 Political Economy	EH	110 English Comp 5
U	101 Soc. & Culture 3	BI	101 Biology 5	U	103 Indiv. in Soc
- Th.	History (p. 39) 3	Core	History (p. 39)3	Core	History (p. 39)3
SM	199 Orientation 1		- Waller of the Control of the Contr		www.womonomonomonomonomonomonomonomonomonomo
-50111	TOO O'NOTANDO SINGE		SOPHOMORE YEAR		
CH	207 Org. Chem 4	CH	208 Org. Chem	CH	209 Org. Chem4
CH	207L Org. Chem. Lab 1	CH	208L Org. Chem. Lab	ZV	251 Physiology 5
EH	220 Great Books I 5	ZY	250 Human Anatomy5	PS	207 Intro. Physics III
NES	200 Nutrition & Health	PS	206 Intro. Physics II	PS	207L Intro. Physics Lab 1
PS	205 Intro. Physics I	PS	206L Intro. Physics Lab 1	Elect	tive or ROTC3
PS	205L Intro. Physics Lab 1		THE RESERVE THE PARTY OF THE PA		mounted as a probability of the contract of th
	Edge and Colonia and Const		JUNIOR YEAR		
EH	221 Great Books II 5	NES	318 Nutr. Biochemistry 4	CA	116 Art for Living
NES	202 Food Prep 5	NFS	318L Nutr. Biochem. Lab 1	EH	404 Tech. Writing 5
MB	300 Microbiology	SY	220 Statistics5	NFS	382 Prin. Norm. Nutr. 1 5
CSE	100 Comp. Appl 3	FCD	157 Fam. & Hum. Dev	PA	218 Ethics in Hith. Prof 5
COL	Too Comp. Appr	COM			>+++++++++++++++++++++++++++++++++++++
	-111100100000-01111011110111011	14.60	SENIOR YEAR		
ZY	310 Cell Biology 4	ZY	300 Genetics5	NFS	574 Clinical Nutr. II
ZY	310L Cell Biology Lab	NES	502 Clinical Nutr. I	FCD	200 Mgt. for Cons 4
NES	392 Prin. Norm. Nutr. II	NFS	592 Nutr. Life Cycle	Core	Fine Arts (p. 39)3
NFS	Elective 4		ve or ROTC	Elec	tives or ROTC
	September 1		TAL - 196 QUARTER HOURS		
		-		THEFT	and the telegraphy of the

To meet the educational requirements of the American Dietetic Association, the following courses must be taken: NFS 304, 307, 456, 462, 564, MN 310, EC 301, VED 415F. Graduates choosing this option are required to complete an additional supervised practice experience in order to be eligible to take the national examination to become a registered dietitian.

## Certificate in Aging Studies

The Certificate in Aging Studies is a multidisciplinary program for students interested in problems of aging persons which will give them a general competency in gerontology. The career-oriented option complements a student's major field of study and, upon completion of the 26 hours, leads to a Certificate in Aging Studies. The program is open to students who choose to use their elective hours in this manner. Interested students should contact the academic advisors in their school and the School of Human Sciences for details. The required courses (26 credit hours) are as follows: PG 302 (3), 507 (5); RSY 371 * (3); ZY 360 (3); FCD 477 (4), 497; SOC 477 (3); FCD 497 (5) or Special problems course offered in student's major department (must incorporate Aging Studies in some way).

RSY 370 (5), Methods of Social Research or a statistics or research course required by the student's major area

may be substituted. Credit will not be given for both RSY 371 and RSY 370 or SOC 370.

## **Dual Objective Program**

Dual objective programs with the College of Education are open to students registered in the School of Human Sciences in the following majors: Family and Child Development, Nutrition and Food Science, Apparel and Textiles, and Interior Environments.

## Options in Cooperative Extension

Students enrolled in any of the majors in the School may prepare for a career in the Cooperative Extension Service through selection of certain courses as electives. Majors may fulfill the requirements of the Alabama Cooperative Extension System through scheduling of the following courses: NFS 200, 202; CA 140, 206, 222, 255 or 305; FCD 467, 541; EM 200.

#### Graduate Work

The School offers work leading to the Master of Science degree, Master of Arts in College Teaching degree and Ph.D. degree in Family and Child Development and Nutrition and Food Science.

GORDON BOND, Dean
JOHN G. HEILMAN, Associate Dean
REBEKAH H. PINDZOLA, Associate Dean

IN THE COLLEGE OF LIBERAL ARTS a student can specialize in a particular field while also gaining a broad general education. Four academic areas — humanities, fine arts, communications and social sciences — are represented by the College's 14 departments: Art; Communication; Communication Disorders; English; Foreign Languages and Literatures; Geography; History; Journalism; Music; Philosophy; Political Science; Psychology; Sociology, Anthropology and Social Work; and Theatre.

Besides affording specialization in majors, the curricula of this College lay a strong foundation for further studies in graduate school or professional school. The College also provides courses needed by students of all other instructional divisions of the University.

## Undergraduate Degrees

Academic majors, programs, and options are offered in 46 fields, described below in the Liberal Arts Curriculum and in the curricula of the School of Fine Arts. Four-year degrees offered by the College in these fields are the Bachelor of Arts, Bachelor of Science, Bachelor of Fine Arts and Bachelor of Music.

## Graduate Degrees

Doctor of Philosophy degrees are offered in English, history, psychology and public administration. Master of Arts degrees are offered in English, French, Spanish, history, political science, sociology and communication. Master of Science degrees are offered in communication disorders and psychology.

The designated degrees of Master of Communication Disorders, Master of French Studies, Master of Hispanic Studies, Master of Communication, and Master of Public Administration are offered. The College's School of Fine Arts offers Master of Fine Arts and Master of Music degrees. The College participates in offering an interdisciplinary degree, Master of Arts in College Teaching. Degree programs are described in the *Graduate School Bulletin*.

#### Education

The College of Education offers a Fifth-Year Program to Liberal Arts students holding a baccalaureate degree in English, foreign language or music. Upon successful completion of the program, a master's degree in Education (M.Ed.) will be awarded and the graduate will be recommended for an A level teaching certificate (master's level certificate).

## The University Honors Program

This program offers individual learning opportunities and participation in honors courses to students with extraordinarily high academic aptitude. For more information, refer to the General Information section of this bulletin.

## Cooperative Education Programs

Cooperative Education Programs which give students an opportunity to integrate academic training with work experience are offered in art, criminal justice, economics, English (technical writing), geography, health administration, journalism, mass communication, political science, psychology, public administration, public relations, social work and sociology. Students alternate each quarter between college and a work assignment provided through the Director of the Cooperative Education Program.

#### Center for the Arts and Humanities

The Auburn University Center for the Arts and Humanities conducts history and heritage programs for the general public in localities throughout the state. For information, contact Dr. Leah Rawls Atkins, Director, in the Center's offices at Pebble Hill.

#### Curriculum in Liberal Arts

## FRESHMAN YEAR

Core History (p. 39) **		Core History (p. 39) **
	SOPHOMORE YEAR	
Core Philosophy (p. 39) 5	EH 220 Great Books I	EH 221 Great Books II
Core Science (p. 39)	Core Science (p. 39) 5 Core Fine Arts (p. 39)	Major 5

* Fitteen hours of the same foreign language; may qualify for up to 15 hours of advanced placement.

" History majors take HY 101-102-103.

#### JUNIOR AND SENIOR YEARS

During the junior and serior years the student is to complete major requirements of 45-70 hours; courses specified in support of the major, one second core composition course; and electives. Electives may include six hours of Basic ROTC and six hours of Advanced ROTC. In majors which do not provide sufficient electives for this purpose, ROTC may be taken in lieu of required courses not in the University or College core to be selected with the help of departmental advisor.

TOTAL-192 QUARTER HOURS (some exceptions)

## Majors in the Liberal Arts Curriculum

A major may be declared at the time of admission or thereafter but must be declared by the end of the quarter in which the student has completed 80 quarter hours of credit, including transfer and all other credit. A student transferring into the college with 80 or more quarter hours' credit must declare a major upon admission. Before a major is declared, a student will follow the requirements of the Liberal Arts Curriculum and will be identified by the symbol CLA.

Bachelor of Arts: Anthropology, Art, Communication, Corporate Journalism, Criminal Justice, Criminology, Economics, English, Foreign Languages-International Trade, French. Geography, German, History, Journalism, Latin American Studies, Mass Communication, Music, Philosophy, Political Science, Psychology, Public Administration, Public Relations, Religion, Russian Studies, Social Work, Sociology, Spanish and Theatre.

Bachelor of Science: Communication Disorders and Health Services Administration.

## Options

Aging Studies. The Certificate in Aging Studies is a multidisciplinary program for students interested in problems of aging persons which will give them a general competency in gerontology. This career-oriented option complements a student's major field of study and, upon completion of the 26 hours, leads to a Certificate in Aging Studies. The program is open to all students who choose to use their elective hours in this manner. Interested students should contact the academic advisors in their College and the Office of the Dean in the School of Human Sciences.

Engineering. This program provides for enrollment in the Liberal Arts Curriculum and in the College of Engineering. Two degrees will be awarded: a bachelor of arts degree in the Liberal Arts major and a bachelor's degree in the designated engineering field. Students should receive dual advising through the Colleges of Liberal Arts and Engineering. Typically, five to six academic years are necessary to complete dual requirements.

Pre-Law. Most majors and curricula are accepted as preparation for the study of law. Courses deemed useful, and which may be taken as electives, in majors, and in some cases to fulfill certain core requirements, are as follows:

AC	215 Fund. of G&C Acct 5	COM	100 Prof. Comm	COM	370 Arg. Discourse 5	
EC	200 Economics I 5	EC	202 Economics II	EH	400 Adv. Composition 5	
HY	306 Contemp. History	HY	571 Hist. of Med. England 5	HY	572 Hist. of Mod. England 5	
PO	501 American Con. Law 1 5	PO	502 American Con. Law II 5	PG	356 Abnormal Psych 5	
15/5	201 Pruchology 6					

Most accredited professional law schools require for admission a bachelor's degree, an excellent scholastic record, and an excellent score on the Law School Admission Test (LSAT). The LSAT should be taken at least nine months ahead of the projected date of law school entrance. The University conducts a Pre-Law Program housed in Haley Center to provide advice on preparing for the study of law and for law school admission. The interested student should confer with the Pre-Law Advisor during orientation sessions prior to entering Auburn and regularly thereafter.

**Pre-Health.** Most majors and curricula in Liberal Arts are accepted as preparation for professional degrees in health, including advanced degrees from schools of medicine, dentistry, optometry, physical therapy, occupational therapy and others. Generally, particular courses in the sciences, mathematics and philosophy should be taken in the University Core. Additional sciences

and mathematics may be needed as electives. The University's Pre-Health Advisor, housed in the College of Sciences and Mathematics, should be consulted for elective and core course guidance for assistance in applying to graduate/professional schools. The Liberal Arts Advisor is available for all other matters related to the student's undergraduate studies.

## Majors

## Anthropology Major (ANT)

	UNIVERSITY CORE	
EH 110 English Composition5 Core History (p. 39) 3-3-3	EH Adv. Comp. (p. 39)	EH 220-221 Grt. Bks. I & II
U 101 Society & Gulture 3	U 102 Political Economy3	
SM 101 Concepts of Sci 5	BI 105 Persp. in Biology5	Core Philosophy (p. 39)5
	COLLEGE CORE	
	FL Foreign Language 5-5-5	***********************************
	MAJOR	
ANT 200 Biosocial Background 3	ANT 201 Cultural Framework 3	ANT 206 Cultural Anthrop5
ANT 207 Archaeology 5	ANT 306 Phys. Anthropology 5	ANT 511 Lang. and Cult 5.
ANT 599 Senior Thesis	ANT 303 or 4035	ANT Electives
Airi ooc outlor these mining	Hours in major, 49.	
	SUPPORTING COURSES	
BI 106 Human Biology	5 COM 100 Prof.	Comm
SOC 201 Intro to Sociology 3	SOC 220 Statistics 5	SOC/RSY 370 Meth. of Soc. Res 5
	and the second of the second o	

Other: A 20-hour concentration in subject of student's choice. Electives, 26 hours,

TOTAL HOURS REQUIRED, 192

#### Art Major (AT)

				UNIVERSITY CORE
FH	110 English Composition	5	EH	Adv. Comp. (p. 39)

5 EH 220-221 Grt. Bks. I & II ......... 10

.... EH 220-221 Grt. Bks. I & II ......

Core	History (p. 39) 3-3-3	Core Mathematics (	p. 39)5	Core Fine Arts (MU	
U	101 Society & Culture 3	U 102 Political	Economy3	U 103 Indiv. & S	
SM	101 or Core Science (p. 39) 5	Core Science (p. 39	)	PA 101 Intro. to L	ogic5
	C	OLLEGE CORE & SU	PPORTING COURS	ES	
FL	Foreign Language	5-5-5	COM 100 Pro	. Comm	
		MA	JOR		
AT	111-2-3 Fund. Draw 4-4-4	AT 121-2-3 Fund	d. Dsgn 4-4-4	AT 171-2-3 Hist.	of Art 3-3-3
A	Any six (6) courses from the following	g with at least one cou	rse in three (3) differ	ent sequences:	
	211-212-213 Figure Drawing		AT 231-232-23	3 Painting	4-4-4
	241-242-243 Printmaking		AT 251-252-25	3 Sculpture	4-4-4
	255 Ceramics				
Thre	e (3) 300-level art history courses	3-3-3	Three (3) 200/3	300/400-level studio co	Urses 4-4-4

Hours in major, 78. Electives, 35 hours.

**TOTAL HOURS REQUIRED, 192** 

## Communication Major (COM)

UNIVERSITY	CORE	

	110 English Composition 5 History (p. 39)	Core	Adv. Comp. (p. 39) Mathematics (p. 39) 102 Political Economi Science (p. 39)	y3	EH 220-221 Grt. Bks. I & II
			COLLEGE CORE		
		FL	Foreign Language	5-5-5	and a second control of the second control o
			MAJOR		
	230 Fnd. of Mass Comm		TOTAL		of Hum. Comm5
00111	and the think is sometime.		Two of these:		
COM	310 Sp. Before Aud	COM east 15	370 Arg, Discourse of which must be at th	e 400 level or	COM 340 Comm. in Org

SUPPORTING COURSES

30 hours must be taken in one or 15 hours in each of two cognate areas outside the Department of Communication. Electives, 33 hours.

TOTAL HOURS REQUIRED, 192

## Communication Disorders Major (CD)

Beginning Fall 1993, students desiring the Communication Disorders (CD) major must formally apply for admission to the program after completion of 45 quarter hours of course work that meets university core requirements. Applications and procedures for admission are available in the CD Department, 1199 Haley Center. Admission decisions are made Fall and Spring quarters, however, applications may be submitted at any time.

			UNIVERSITY CORE		
EH	110 English Composition5	EH	Adv. Comp. (p. 39)5	EH	220-221 Grt. Bks. I & II 10
Core	History (p. 39) 3-3-3	Core	Mathematics (p. 39)5	Core	Fine Arts (p. 39)
U	101 Society & Culture 3	U	102 Political Economy	U	103 Indiv. & Society
SM	101 or Core Science (p. 39) 5	Core	Science (p. 39)	Core	Philosophy (p. 39) 5
			COLLEGE CORE		
		FL	Foreign Language 5-5-5		
			MAJOR		
CD	340 Sp. & Hear, Mech 5	CD	341 Phonetics 4	CD	350 Intr. Sp. Path-Aud 5
CD	355 Sp. & Hear. Sci 4	CD	558 Clin. Proc. Sp. Path 4	CD	559 SpLang. Path
CD	551 Articulation Dis 5	CD	552 Lang. Acg. in Child 5	CD	553 Fluency Dis
CD	554 Vocal Dis 5	CD	560 Intr. Audiology 5	CD	556 Ch. Adol. Lung. Dis 4
CD	562 Hr. Ev., Rehab./Con 5	CD	565 Intr. Clin. Audio 4 Hours in major, 62.		
			SUPPORTING COURSES		
COM	100 Prof. Comm	ntermin			ed by advisor20
			verall GPA required to take courses		the 300 level;
	2.51	overall	GPA to take Clinical Practicum (CD)	559).	

#### TOTAL HOURS REQUIRED, 192

# Corporate Journalism Major (JMC)

			UNIVERSITY CORE			
EH	110 English Composition 5	EH	Adv. Comp. (p. 39)	5	EH	220-221 Grt. Bks. I & II 10
	History (p. 39) 3-3-3	Core	Mathematics (p. 39)		Core	Fine Arts (p. 39)3
U	101 Society & Culture 3	U	102 Political Economy		U	103 Indiv. & Society 3
SM	101 or Core Science (p. 39) 5	Core	Science (p. 39)	5	Core	Philosophy (p. 39) 5
			COLLEGE CORE			
		FL	Foreign Language	. 5-5-5		(a) = 11-51-101111111111111111111111111111111
			MAJOR			
Prere	quisite: JM 101 Newspaper Style	3				
JM	111 Newspaper Lab 1	JM	221 Beg. Newswriting	5	JM	313 Reporting 5
JM	304 Intro. to PR5	JM	314 Editing		JM	321 Newspaper Design 5
JM	322 Feature Writing 5	JM	404 PR Case Studies	5	JM	421 Photo-Journalism 5
			One of the following:			
JM	423-423 Journalism Workship			425 Inter	nship.	ns-re-minimum maioromomomom 4
			One of the following:			311
JM	470 Freelance Feature Writing			485 Adv.	Repo	rting3
			Hours in major, 48.			
			SUPPORTING COURSES	S		
		Att	east 20 hours from the follo	wing:		
MT	241 Bus. Law	MT	331 Prin, Mkting	5	MT	332 Mkt. Comm. Mgt 5
MT	341 Buyer Behavior	SOC	204 Soc. Behavior		SOC	507 Public Op. & Prop 5
PG	201 Psychology 5	PG	358 Social Psychology	5	EC	202 Economics II
EH	404 Tech. Writing 5	EH	408 Bus. Writing		EH	416 Tech. & Prof. Editing 5
PO	341 Pressure Groups 3	PO	342 Politics/the Media	5	CON	100 Prof. Comm 3
			Two of the following course	is:		
COM	250 Fnd. of Hum. Comm 5	RTF	336 Television Prod Electives, 34-36 hours	5	RTF	338 Broad. Newswrit 5
		TO	TAL HOURS REQUIRED,	192.		

# Criminal Justice Major (CJ)

	OHITE HOLL COLLE	
EH 110 English Composition5 Core History (p. 39)	EH Adv. Comp. (p. 39)	EH 220-221 Grt. Bks. I & II 10 Core Fine Arts (p. 39)
U 101 Society & Culture 3	U 102 Political Economy	U 103 Indiv. & Society 3 Core Philosophy 5
SM 101 or Core Science (p. 39) 5	COLLEGE CORE	Oue Filloophy
толонилолололололонинининин-	FL Foreign Language 5-5-5	***************************************
	MAJOR	
PO 210 St. & Loc. Gov't 5	PO 325 Intro. to PA5	CJ 565 CJ Org. & Admin 5
PO/CJ 260 Intro. Criminal Justice 5	CJ 335 Criminal Law3	Any CR course5
Two add. CJ courses 8-10	PO/CJ 504 or CJ 336 5 or 3	PO 333 or PA 492 or 504 3 or 5 or5

	One of the following:	
SDC 202 Social Problems 5		SOC 304 Minority Groups 5
SOC 360 Soc. Epidemiology 5		PG 356 Abnormal Psych5
PG 400 Psych in CJ 5	FCD 267 Human Development 5	114011010101010101010101010101010101
	One of the following:	SOC 370 Methods5
PO 300 Research Methods 5 PG 303 Research Methods 5	SOC 220 Statistics	300 370 memoda
PG 303 Research Methods 5	n the following to bring the total number of C.	J hours to 60: 2-10
Any CJ course	Any CR course	PO 330 Law & Conf. Res
PO 332 Jud Process 3		PO 501 Con. Law I5
PO 502 Con. Law II 5	PO 503 Con. Law III	PO/CJ 504 Con. Law IV 5
As the state of the second sec	e at the 400-level or above. At least 30 hours	s must be at the 300-level or above.
	AL HOURS REQUIRED FOR THE MAJOR.	
101		**
man and discount	SUPPORTING COURSES	Sociology3
COM 100 Prof. Comm	Electives, 50	Source of the second se
	TOTAL HOURS REQUIRED, 192	
	Criminology Major (CR)	
E. MENNERMAN	UNIVERSITY CORE	EH 220-221 Grf. Bks.   & II 10
EH 110 English Composition5		Core Fine Arts (p. 39)
Core History (p. 39)		U 103 Indiv. & Society
SM 101 or Core Science (p. 39) 5	Core Science (p. 39)5	Core Philosophy (p. 39) 5
	COLLEGE CORE	
	FL Foreign Language 5-5-5	
	MAJOR	
CR 302 Criminology 5	CR 308 Juv. Deling5	CR 450 Soc. Grim. Law
SOC 220 Statistics5	COO OLG MISSING COOL	CR 415 or 420
CR 426 or 530 5	SOC 409 of 502	SOC 201 Hillo. to Sociology
CR 501 Drugs & Soc		in Crim. Just5
CR 515 Police & Soc.		ology 5
	Hours in major, 50.	
	SUPPORTING COURSES	
	COM 100 Prof. Comm	
ANT OOS CUIT Anthron	PG 400 Psych in CJ Sys	SOC 304 Minority Groups5
ANT 206 Cult. Anthrop	PO 501, 502, or 5035	222 221 1111151117 31 31 31 31
Other: A 20-hour of	oncentration in subject of student's choice. El	lectives, 25 hours.
	TOTAL HOURS REQUIRED, 192	
	Economics Major (ECLA)	
	UNIVERSITY CORE	
FIL 110 Faulish Commodition E	EH Adv. Comp. (p. 39)	EH 220-221 Grt. Bks. I & II 10
EH 110 English Composition 5 Core History (p. 39) 3-3-3	Core Mathematics (p. 39)5	Core Fine Arts (p. 39) 3
U 101 Society & Culture 3	U 102 Political Economy3	U 103 Indiv. & Society 3
SM 101 or Core Science (p. 39) 5	Core Science (p. 39)5	Core Philosophy (p. 39)5
	COLLEGE CORE	
завининициинопоннити	FL Foreign Language 5-5-5	***************************************
	MAJOR	an and an area of
EC 200 Economics I	EC 202 Economics II5	EC 551 Intermed. Micro
EC 554 Hist. Econ. Thought 5	EC 556 Intermed. Macro	
plus 25 flours of economics courses	SUPPORTING COURSES	
	COM 100 Prof. Comm	
	Electives, 63 hours.	
	TOTAL HOURS REQUIRED, 192.	
	English Major (EH)	
	UNIVERSITY CORE	
EH 110 English Composition 5	EH 400, 404 or 4085	EH 220-221 Grt. Bks. I & II 10
Core History (p. 39) 3-3-3	Core Mathematics (p. 39)5	Core Fine Arts (p. 39)
U 101 Society & Culture 3	U 102 Political Economy3	U 103 Indiv. & Society
SM 101 or Core Science (p. 39) 5	Core Science (p. 39)5	Oute Filliosophy (p. 38)
	FL Foreign Language 5-5-5	
110110110110110110110110110110111111111	FL Foreign Language 5-5-5	TOMOROGOMO TOMO TOMO TOMO TOMO

ri.	100 leter with a Total			EU	444 Inter	to Lie	en riedica.	5
	403 Interpreting Texts 400- or 500-level writing course in a nd thirty-five (35) additional credit-ho	ddition	to the Univ		equirement.	5	guistics	
in 40	0- or 500-numbered courses, and tw	enty (2)	0) of which	must be in a	department	-approv	red concentration. The de	epartment
offers	preset concentrations in literature	. lingui	istics and	rhetoric, cre	ative writing	and t	echnical and professiona	al writing;
	entrations may also be individually of	lesigne	d. Hours in	major, 50:				
	Supporting Courses: 20 hours	of cour				n a sub	ject of the student's choice	e.
		-		tives, 46 hou				
		TO	TAL HOU	RS REQUIR	ED, 192			
	20.000						DT COT COT	
	Foreign Language	es-In				or (F	HI, GHI, SPI)	
				RSITY COR				
EH	110 English Composition 5			Writing			220-221 Grt. Bks. I & II	
	History (p. 39) 3-3-3	U		cs (p. 39) cal Economy			Fine Arts (p. 39)	
SM	101 Society & Culture						Philosophy (p. 39)	
OIH.	101 51 5015 5051105 (\$1.00) 11.5	0010		LEGE CORE		-	commendate of the sections	
	***************************************	FL		r SP				
	- Perpending the State of the S			MAJOR				
In	cludes completion of a major in French	h Garr			wind course	os are re	equired in the respective la	nouages
FR.	321 Bus. French 3	GR					321 Bus. Spanish	
FR	421 French Inatl. Trade 4	GR		nan Inatl. Tra			322 Span. Inatl. Trade	
		n major	r, 45 in Fre	nch and Spa	nish, 48 in (	German	l.	
			SUPPOR	TING COUR	SES			
EC	200 Economics I 5	EC					211 Intr Acct. I	
AC	212 Intr Acct. II			Apps			331 Prin, Mkt	
MN	310 Prin Mgt 5	FI		Fin		EC	571 Inatl Econ.	5
FI	451 Multinatl Fin. Mgt 5			Comm		d bu the	ark dear	
a	nd five hours from any upper-divisio			ble dependin		a by the	duvisus.	
				RS REQUIR				
		10	MENOU	no negom	ED, 102			
			F		ED)			
			French	Major (	FH)			
			UNIVE	RSITY COR	E			
EH	110 English Composition 5	EH	Adv. Con	np. (p. 39)	5		220-221 Grt. Bks.   &	
Core	History (p. 39) 3-3-3			ics (p. 39)			e Fine Arts (p. 39)	
U	101 Society & Culture 3	U		ical Economy			103 Indiv. & Society	
SM	101 or Core Science (p. 39) 5			ence (p. 39)		Con	e Philosophy (p. 39)	
				LEGE CORE				
	пиши поменения п	FR		103	5-5-5		-matemanianaminimi	***************************************
				MAJOR				
FR	201-202-203 Second-Yr. French .			FR			on	
FR	302 Composition nd twenty-one (21) additional credit			FR se numbered			us in major 45	
d	nd twenty-one (21) additional credit	nours t				ve. 1100	na in major, 40.	
		con		TING COUR				
	101011000000000000000000000000000000000	COM		ves, 68 hours				
		TO		RS REQUIR				
		G	naran	hy Majo	r (GV)			
		G						
				ERSITY COR		200		
	110 English Composition 5	EH		np. (p. 39)			220-221 Grt. Bks. I & I	
	History (p. 39) 3-3-3	2.0	Company and Control	ics (p. 39)	- 43		e Fine Arts (p. 39) 103 Indiv. & Society	
SM	101 Society & Culture			o. 39)		Con	e Philosophy (p. 39)	5
SIVI	TO TO COME OCIONION (p. 30)3	Sold		LEGE CORE		- Coll		
		FL		Language			Announce of the late of the la	
	**************************************	1.6			2-3-3			
Des	aculaita: CV 100 /F1			MAJOR				
GY	equisite: GY 102 (5) 214 Intr. Phys. Geog	GY	215 Intr	Hum. Geog.	- 5	GY	223 Field Geog	5
GY	240 Intr. Cartography			earch Techni			and the same of the same	
	nd 35 hours at the 300-level or above					ites).		
				TING COUP	7.1.			
	Lawrence and the control of the cont	COM		. Comm				
				ectives, 35 h				
		Tr	TAL HOU	IDS PEOLIE	ED 102			

		(	erman N	lajor (G	iR)		
			UNIVERSI	TY CORE			
CLI	110 English Composition 5	EH	Adv. Comp. (		5	EH	220-221 Grt. Bks. I & II 10
	History (p. 39) 3-3-3		Mathematics (				Fine Arts (p. 39) 3
Core	101 Society & Culture 3	U	102 Political I			U	103 Indiv. & Society
SM	101 or Core Science (p. 39) 5		Science (p. 39				Philosophy (p. 39)
SIM	101 or Core Science (p. 38) 5	Core			minima.	COIL	rimosophy (p. 50)
				E CORE			
	`	GR	101-102-103	******	5-5-5		
			MA				
		48 h	ours at the 20		above		
		46.11					
		1.000	SUPPORTING				21101210101010101010101010101010101
		COM	100 Prof. Cor				>11.01.01.01.01.01.01.01.01.01.01.01.01.0
			Electives,	65 hours.			
		TO	TAL HOURS	REQUIRED	), 192		
	Health S	ervic	es Admir	nietratio	on Mai	or (H	ISA)
	neatti 5	CIVIC			on maj	0. (.	ionj
			UNIVERSI	TY CORE			
EH	110 English Composition5	EH	408 Business	Writing		EH	220-221 Grt. Bks. I & II 10
HY	101-102-103 (p. 39) 9	MH	160 Pre-Calc			Core	Fine Arts (p. 39)3
U	101 Society & Culture 3	U	102 Political			U	103 Indiv. & Society 3
BI	105 Perspectives 5	BI	106 Human B			PA	Ethics & Health5
	ASSES STATES OF THE STATES OF			E CORE			
		-			46		
	- Communication of the Communi	FL	101-102-103		mour 19		
			MA				
HA	320 Health Policy5	HA	360 Intro. He			HA	361 Health Law3
HA	370 Health Community 3	HA	450 Internshi				451 Int. Readings 5
HA	500 Health Care Org 3	HA	510 HA Finar			AC	
AC	212 Accounting II 4	CSE				SOC	577 Medical Soc 5
	manus as / none manus and motors	VED	352 Medical	Term			
			Two of the	following:			
HA	530 Regulation	*********	3	HA			chnology3
HA	532 Long-Term Care		3	HA	539 Topic	S	3
	70000		One of the	following:			
PO.	209 U.S. Government			PO	210 State	and L	ocal Government 5
			One of the	following.			
PO	326 Organizational Theory		5	PG	359 Indus	strial P	sychology5
			One of the	following:			
AC	213 Cost & Budget		4	PO	514 Finar	ncial A	dministration3
			One of the				
MN	314 Intro MIS 2	PO	410 Records	Manageme	ent 3	VED	305 Records Management 3
			One of the	following:			
SOC	220 Statistics 5	RSY	220 Statistics			MN	301 Bus. & Econ. Statistics 3
			Hours in M.	ajor, 84-86.			
			Electives, 2	7-29 hours			
		TO	TAL - 189 Q	UARTER H	OURS		
						TION	
	OPT	IONAL	CERTIFICATE		CENTHA	IION	
			FINA	NCE			
AC	311 Inter. Accounting I 5	AC	312 Inter. Ac	counting II	5	EC	202 Economics II 5
HA	539 Topics: Finance	FI	361 Pnn. of 6	Bus. Financ	e 5		
			LONG-TE	RM CARE			
140	FRS 1 T C 2	UA			2.6	enc	201 Intro. Sociology 5
HA	532 Long-Term Care 3-	HA.	550 Special I			300	201 miro. Sociology
FFF	and the same of th		Three of th	soc Soc	ATT Con	-	ng 3
FCD	477 Family and Aging			SW	305 Agin	of Agii	s & Services 2-5
SW	375 Intro. to Social Welfare		courses appr			y issue	35 9 Del A1062
		Ome	courses appr	oved by FIA	advisor.		
			History N	lajor (H	Y)		
				ITY CORE			
	Assertation and the second	-	0.0000000000000000000000000000000000000			ELL	220, 221 Get Bles 1 8 11 40
EH	110 English Composition 5	EH	Adv. Comp.				220-221 Grt. Bks. I & II 10
HY	101-102-103 Wld. Hist 3-3-3		Mathematics (				Fine Arts (p. 39)
U	101 Society & Culture 3	U	102 Political			U	103 Indiv. & Society
SM	101 or Core Science (p. 39) 5	Core	Science (p. 39	9)		PA	101 Intro. to Logic 5

#### A minimum of 34 additional hours of history courses, 15 hours of which must be at the 500-level. Hours in major, 50. Other: Electives, 50 hours. **TOTAL HOURS REQUIRED, 192**

COLLEGE CORE FL Foreign Language ...... 5-5-5 MAJOR One of these pairs of courses: 
 HY
 201 and 202 History of U.S.
 5-5
 or
 HY
 207 and 208 European History
 5-5

 HY
 405 Hist. Res. & Writing
 3
 HY
 406 Hist. Res. & Writing II
 3

# Journalism Major (JM)

		10	urnalism Major (JM)		
			UNIVERSITY CORE		
EH	110 English Composition 5	EH	Adv. Comp. (p. 39)5		220-221 Grt. Bks. I & II
Core	History (p. 39)3-3-3		Mathematics (p. 39) 5		Fine Arts (p. 39)
U	101 Society & Culture 3	U	102 Political Economy	Com	103 Indiv. & Society
SM	101 or Core Science (p. 39) 5	Core	Science (p. 39)5  COLLEGE CORE	Core	
		FL	Foreign Language 5-5-5 MAJOR		
Prere	quisite: JM 101 Newspaper Style (3	1).	The second secon		
JM	111 Newspaper Lab 1	JM	221 Beginning Newswriting 5	JM	313 Reporting5
JM	314 Editing 3	JM	321 Newspaper Design 5	JM	322 Feature Writing
JM	323 Newspaper Mgmt 5 422-423 JM Workshop 1-1 of	JM	421 Photo-Journalism	JM	405 filst, a Film, vournament a
JM	425 Journalism Internship 4				
			One of the following:		
JM	470 Freelance Feature Writing		najor, 43-45 (excluding prerequisite		Reporting3
	H			10/-	
			SUPPORTING COURSES PO 342 Poli	Non P. A	Media5
COM	100 Prof. Comm.	100000000	Electives, 59-61 hours	lines or in	1000
		TO	TAL HOURS REQUIRED, 192		
	L	atin /	American Studies (GY	L)	
	AND Frontish Consumition	EH	Adv. Comp. (p. 39)	EH	220-221 Grt. Bks.   & II 10
EH	110 English Composition5 History (p. 39)	EH	Mathematics (p. 39)5		Fine Arts (p. 39)
U	101 Society & Culture 3	U	102 Political Economy 3	U	103 Indiv. & Society
SM	101 or Core Science (p. 39) 5	Core	Science (p. 39)5	Cor	e Philosophy (p. 39)5
			COLLEGE CORE		
	***************************************	SP	101-102-103 5-5-5		
			MAJOR		
or Po	ne student will complete the requirer litical Science. The requirements to a from the following courses should	га геди	lar major in one of the participating	depart	ow) in Spanish, Geography, History, ments must be fulfilled. At least 18
SP	301 Phonetics 3	SP	302 Syntax 3	SP	303 Conversation3
SP	304 Composition 3	SP	305 Intr Hispanic Lit	SP	313-314-315 S.A. Civ
SP	413-414-415 Sp. Am. Lit9		Commelia		
GY	302 Economic Geog 5	GY	Geography: 304 Geog. Latin America 3	GY	401 Geog. l'nall Rel5
GY	505 Geog. I'natl Dev	GY	507 Res.& Envir 5	100	15) 9852 1950
	ses seed that seed the		History:		
HY	300 Gent. Amer 3	HY	355 Iberia 5	HY	552 Cent. Amer. & Canb 5
HA	553 S. Amer. to 1800 5	HY	554 Mexico	HA	555 S. Amer, since 1800 5
200	309 I'natl Relations 5	PO	311 I'natl Org5	PO	312 Comp. Gov't
PO	318 Latin Amer. & U.S 5	PO	535 Cont. l'natl Politics 5	PO	
PO	540 I'nati Law 5	1.2			
	H	ours in r	najor, 45minimum, determined by a	area.	
			SUPPORTING COURSES		
COM	100 Prof. Comm		3 SP 201-202	2-203 lr	nt. Span 4-4-4
T	he student will complete a concer entration will consist of 20 hours, to	ntration	in one of the participating departs	nents or the m	not serving as the major area. The najor option.
		TO	OTAL HOURS REQUIRED, 192		
	Ma	ee C	ommunication Major (	RTF	Y.
	Ivia	33 0	UNIVERSITY CORE		
EH	110 English Composition5	EH	Adv. Comp. (p. 39)5	EH	220-221 Grt. Bks.   & II 10
	History (p. 39) 3-3-3		Mathematics (p. 39) 5	Co	re Fine Arts (p. 39)3
U	101 Society & Culture 3	U	102 Political Economy3	U	103 Indiv. & Society 3
SM	101 or Core Science (p. 39) 5	Core	Science (p. 39)5	Co	re Philosophy (p. 39)5
			COLLEGE CORE		
	***************************************	FL	Foreign Language 5-5-5		
U.			MAJOR		
	1 100 Prof. Comm	RTF	230 Found, of Mass Comm 5 439 Internship	CO	M 250 Found, of Human Comm. 5
PTE	334 Radio Prod 5	RTF	336 Tele. Prod	RT	F 337 Elect. Fld. Prod 5
RTF	334 Paulo Frod		www.totalc.com/mononimion/		The state of the s

			One of the following		
RTF	335 Writing for Radio/TV/Film	01101100	One of the following: 5 RTF 338 Broa	dcast	Newswriting
-			wenty hours from the following:		
RIF	235 Intro. to Film Studies 5		430 Rad./TV Pro. St		431 So. Inf. Mass Med 5
RTF	432 Broad. Mgt		433 Media Law/Reg 5 437 New Technol 5	HIF	590 Special Topics in RTF, 5
RTE	420 Hy, of Amer. Broadcast 5		421 Cult. & Mass Comm 5		***************************************
			must be at the 400-level or higher.		
			Hours in major, 51-54.		
	Note: COM 250, 260 and RTF 23	0 are p	rerequisites for all 400-level courses t	or ma	jors in all COM sequences.
			SUPPORTING COURSES		
	30 hours must be taken in one or	15 hou	rs in each of two cognate areas outsit Electives, 32 or 35 hours.	de the	Department of Communication.
		TO	OTAL HOURS REQUIRED, 192		
			Music Major (MU)		
			UNIVERSITY CORE		
EH	110 English Composition 5	EH	Adv. Comp. (p. 39)5	EH.	220-221 Grt. Bks. J & II 10
	History (p. 39) 3-3-3		Mathematics (p. 39) 5		Fine Arts (AT or TH) (p. 39) 3
SM	101 Society & Culture 3	Com	102 Political Economy	Core	103 Indiv. & Society
OW	101 or Core Science (p. 39) 5	Pole	Science (p. 39)5	Core	Philosophy (p. 39)5
		E	COLLEGE CORE		
	70000000000000000000000000000000000000	FL	Foreign Language 5-5-5		•••••••••••••••••••••
Descri	muledor MI 121 122 123 141 6 C	m ve	MAJOR		
MU	231-232-233 Mat. & Org 5-5-5	org. (5-5 MU	5-5) and MUA 184 Performance (6). 251-252-253 Music Lit 1-1-1	MU	331-332-333 Mat. & Org. 3-3-3
MU	351-352-353 Music Hist 3-3-3	MU		MU	384 Performance
MU	Perf. Ensemble	MU	020 Soph. Comp 0	MU	040 Senior Project 0
		Hours in	major, 71 (including pre-requisites).		
			SUPPORTING COURSES		
	11001000011001001011010101010101010101	COM	100 Prof. Comm3		
			Other: Electives, 42 hours.		
		TO	TAL HOURS REQUIRED, 192		
		Ph	ilosophy Major (PA)		
			UNIVERSITY CORE		
EH	110 English Composition 5	EH	Adv. Comp. (p. 39)5	EH	220-221 Grt. Bks. I & II 10
	History (p. 39)		Mathematics (p. 39)5		Fine Arts (p. 39)
U	101 Society & Culture	U	102 Political Economy	U	103 Indiv. & Society 3
SM	101 or Core Science (p. 39) 5		Core Science (p. 39)5	PA.	101 Intro. to Logic
**	- Control of the Cont		COLLEGE CORE		
FL	Foreign Language	entless Ha		to Eth	ics,
			MAJOR		
PA or by consi	333 Ancient/Early Med 5 taking any two of the above plus ultation with the department head. The	PA one 5 e stude	is in history of philosophy which shall I 334 Late Med./Early Mod 5 -hour-course substitution drawn fron nt will choose 35 additional hours, at lest to be at the 400 or 500 levels. Hours in Other, Electives, 66 hours.	PA app ast 25	335 Recent/Contemp 5 royed alternatives and allowed in hours of which must be at or above
		TO	TAL HOURS REQUIRED, 192		
		Politi	cal Science Major (PO)		
		- Inti			
EG	110 English Company	EH	UNIVERSITY CORE	CHI	220 221 Cd Db- 18 11
EH	110 English Composition 5 History (p. 39) 3-3-3	Core	Adv. Comp. (p. 39)		220-221 Grt. Bks.   &
U	101 Society & Culture 3	U	Mathematics (p. 39)	U	103 Indiv. & Society
SM	101 or Core Science (p. 39) 5		Science (p. 39)5		Philosophy (p. 39)
			COLLEGE CORE		
		FL	Foreign Language 5-5-5		
			MAJOR		
PO	300 Pol. Sci. Research Methods	5	PO 302 Intro. to Pol. Thought	5	
			applicable, the introductory course(s		e student's concentration:
PO	309 Intr. I'nati Rel 5	PO	312 Intr. Comp. Politics 5		325 Intr. Public Admin 5
PO	330 Pub. Law/Con. Res 5				
			of courses in one concentration, as follo inistration and Public Law and Conflic		
			SUPPORTING COURSES		
	111111111111111111111111111111111111111	COM	100 Prol. Comm3		
			ther: Electives, 51 to 61 hours.		
		TO	TAL HOURS REQUIRED, 192		

## Psychology Major (PG)

#### FRESHMAN YEAR

	THEODIMINIT TENT	
## Berlin	Core Philosophy (p. 39)         5           FL         First Year         5           Core History (p. 39)         3           U         102 Political Economy         3	Core Mathematics (p. 39)         5           FL First Year         5           Core History (p. 39)         3           U 103 indiv. & Society         3
	SOPHOMORE YEAR	
SM 101 or Core Science	EH 220 Great Books I	EH 221 Great Books II
	JUNIOR YEAR	
PG 304 Quant. An. in Psych	PG       352 Learning       5         PG       Major       5         Elective       3         Elective       3	PG Major         5           EH Adv. Comp. (p. 39)         5           Elective         3           Elective         3
	SENIOR YEAR	
PG Major	PG Major	PG Major

All majors will include PG 201, 303, 304 and 352, plus at least seven at the 300-500 level. Students planning to attend graduate school in psychology are advised also to complete PG 305 and 351, at least one of either PG 353 or 354, at least one of either PG 212, 356, 357 or 358 and any other three psychology courses at or above the 300 level. Students intending to pursue a career related to psychology immediately after receiving the baccalaureate degree are advised also to complete PG 350 and 414, one of either PG 359, 360, 400, 410 or 411, one of either PG 501, 502 or 505, and any other three courses at or above the 300 level. Students not planning to attend graduate school in psychology or to seek immediate post-baccalaureate work related to psychology are advised also to complete PG 251 and 252 and any other five psychology courses at or above the 300 level. Hours in major, 55.

TOTAL HOURS REQUIRED, 192

## Public Administration Major (PUB)

#### UNIVERSITY CORE

EH	110 English Composition 5	H Adv. Comp.	(p. 39)	5 E	H 220-221 Grt. Bks. I & II 10
Core	History (p. 39)	Core Mathematics	(p. 39)	5 (	Core Fine Arts (p. 39)
U	101 Society & Culture 3				103 Indiv. & Society
SM	101 or Core Science (p. 39) 5	Core Science			Core Philosophy (p. 39)5
	1010101010101010101010101010101010101010	COLLE	GE CORE		
		L Foreign Lan			
	эотопонования понования Т				protection and a feature and a
		M.A	JOR		
Pren	equisites: PO 210 State & Local Gov't.	(5), CSE 100 Pen	sonal Comp	uter Apps. (3)	
PO	300 Research Methods 5 F	O 325 Intro. to	Public Adm	nin 5 F	O 326 Theory of Public Org 5
PO	327 Policy Process 5 F	O 514 Financi	al Admin	5 F	O 515 Pub. Personnel Admin 3
		30 hours from	n the follow	ing:	
PO	320 Intergovernmental Relations		PO	323 Municip	al Gov't in U.S5
PO	328 Government & the Economy	3	PO	333 Admin.	Responsibility3
PO	501-502-503-504 Con. Law (one)		PO	505 Metro.	Area Gov13
PO	517 Labor Rel. Public Org		PO		Law 5
PO	519 Prob. in Pub. Admin		PO		val 5
		urs in major, 58 (e			****
	1.0			200	
		SUPPORTI	NG COURS	ES	
		COM 100 Prof. Co	omm		1001001001001010101010101010101010101

20 hours ichosen in consultation with advisor. Other: Electives, 27 hours. TOTAL HOURS REQUIRED, 192

#### Public Relations Major (PR)

#### UNIVERSITY CORE

		History (p. 39) 3-3-3		Mathematics (p. 39)	Core Fine Arts (p. 39)
	U	101 Society & Culture 3		102 Political Economy3	U 103 Indiv. & Society 3
	SM	101 or Core Science (p. 39) 5		Core Science (p. 39)	Core Philosophy (p. 39)
				COLLEGE CORE	
		3101101011111101101101101101101101101	FL	Foreign Language 5-5-5	101101101101101101101101101101101101101
				MAJOR	
	Prequ	isite: JM 101 Newspaper Style (3)			
j	RTF	230 Fnd. of Mass Comm 5	COM	250 Fnd. of Hum. Comm 5	COM 260 Fnd. of Rhet. & Soc 5
	PR	304 Intro. to PR 5	COM	311 Persuasive Discourse 5	PR 402 PR Camps/Ethics 5
	PR	404 Case Studies in PR 5	PR	408 PR Writing & Res	COM 439 Internship 3 or 6
	COM	451 Rsrch. Meth. in Comm 5	COM	One of the following:	
	RTF	334 Radio Prod 5	RTF	336 TV Prod5	RTF 337 Elect, Field Prod 5

RTF	335 Writ. for TV/Radio/Film 5	RTF	Two of the following: 338 Broadcast Newswriting 5 Hours in major, 66 or 69.	RTF	433 Mass Media Law & Reg 5
			SUPPORTING COURSES		
JM	101 Newspaper Style			EC 20	2)5
-	103 Horopopus adjus institution	an	d 3 courses from the following:		
JM	221 Beg. Newswnt	JM	313 Reporting		314 Copyread. & Edit
MT	255 Leg. & Soc. Env. Bus 4 341 Buyer Benavior	MT PO	331 Prin. Mkt	MT	332 Mkt. Comm. Mgt 5
250.1			erequisites for all 400-level courses	for ma	jors in all COM sequences.
			Electives, 10 or 15 hours.		
		TO	TAL HOURS REQUIRED, 192		
		F	Religion Major (RL)		
			UNIVERSITY CORE		
EH	110 English Composition 5 History (p. 39) 3-3-3	EH	Adv. Comp. (p. 39)		220-221 Grt. Bks. I & II 10 Fine Arts (p. 39)
U	101 Society & Culture	U	102 Political Economy	U	103 Indiv. & Society
-	and the second		COLLEGE CORE		
		FL	Foreign Language 5-5-5		
			MAJOR		
RL	201 Intr. to Religion			Relig	ions or 304 West. Religions 5
	nd 37 additional hours, 25 hours of	which n	nust be at the 300-level or above. H		
		TO	OTAL HOURS REQUIRED, 192		
	F	Russi	ian Studies Major (RUS	5)	
			UNIVERSITY CORE		
EH	110 English Composition 5	EH	Adv. Comp. (p. 39)5	EH	220-221 Grt. Bks. I & II 10
	History (p. 39)		Mathematics (p. 39)5	Core	Fine Arts (p. 39)
U	101 Society & Culture 3	U	102 Political Economy3	U	103 Indiv. & Society
SM	101 or Core Science (p. 39) 5	Core	Science (p. 39)5	Core	Philosophy (p. 39) 5
			COLLEGE CORE		
		RU	101-102-103 5-5-5		name of each of the state of th
			MAJOR		
R	U 201-202-203 Second Year Ru. 5-	5-5 and	38 hours chosen from the following	, includ	ling at least two courses each in (1)
	ry, (2) political science, and (3) Rus 274 Russian Culture	RU	275 Soviet Culture5	RU	301 Russian Convers
RU	302 Russian Composition3	RU	303 Russian Civilization 3	RU	107-25 (1921-1931) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1932) 193 (1932-1
RU	352 Russ. Ltl. 1860-19173	RU	353 Sov. Lit. 1917-Present 3	GY	303 Sov. Union, L&P 5
HY	556 Russia 800 - 1861 5	HY	557 Rus./USSR since 1861 5		401 Philos. Fnd. Comm 5
PA	440 Contemporary Marxism 5 537 Soviet Foreign Policy 5	PO	523 Comm. Theory & Prac 3	PO	536 Gov't & Pol. Sov. Union _ 5
	20) Samuri Sangiri Sang Samuri		Hours in major, 53.		
	Other: A	disciplin	nary major is also required, 45 hours	minim	um.
			SUPPORTING COURSES		
		COM	100 Prof. Comm3		***************************************
		TO	Elective, 15 hours. OTAL HOURS REQUIRED, 192		
		So	cial Work Major (SW)		
from	an accredited institution is eligible to	gree is take th	ully accreditied by the Council on Soc e examination for licensure as a bac	cial Wor	k Education. A person with a degree ate-level social worker (LBSW) and
	for advanced standing in social wo				
EH	110 English Composition 5	EH	Adv. Comp. (p. 39)5	EH	220-221 Grt. Bks. I & II 10
	History (p. 39) 3-3-3		Mathematics (p. 39)5		e Fine Arts (p. 39)
U	101 Society & Culture 3	U	102 Political Economy3	U	103 Indiv. & Society 3
BI	105 Persp. in Biology 5	BI	106 Human Biology5	PA	218 Ethics & Health5
			COLLEGE CORE		
FL	For Lang. (Spanish recommende	id)			
			MAJOR		and the second second second
SOC		SW	320 Field Practicum4	SW	375 Intro. to Social Welfare 5
SW	376 Com. Social Services5	SW	380 Hm. Behav. Soc. Env. I 5	SW	
SW	506 Social Work Methods I 5 575 Soc. Weltare Policy 5	SW	420 SW Field Placement 15 Hours in major, 60.	SW	JOO GOORI WORK MELIDOS III 3
SW	506 Social Work Methods I 5	SW	507 Social Work Methods II 5 420 SW Field Placement 15	SW	

-	201 Subject Supposed 2	DC.	SUPPORTING COURSES		COM 100 Prof. Comm	3
SOC	201 Cultural Framework 3 220 Statistics				Groups	
	370 Meth. of Social Research				unity Organization	
	Other	PG 212	2 Dev. Psych., 5 hours; Election	ives, 25 h	OUTS.	
		TO	OTAL HOURS REQUIRED, 1	92		
		So	ciology Major (SO	(C)		
			UNIVERSITY CORE			
	110 English Composition 5		Adv. Comp. (p. 39)		EH 220-221 Grt. Bks. I & II 1	
	History (p. 39) 3-3-3	20000	Mathematics (p. 39)		Core Fine Arts (p. 39)	
SM	101 Society & Culture	Corn	102 Political Economy Science (p. 39)	5	U 103 Indiv. & Society	
SIVI	Tot or Gore Science (p. 55) = 5	OUIL	COLLEGE CORE			
		FL		5-5-5		
			MAJOR			
ANT	200 Biosocial Backgmd 3	ANT	201 Cult. Framework		SOC 201 Intr. Sociology	
SOC	203 Population & Society 5	SOC	220 Statistics	5	SOC 370 Social Research	5
	100 0 100 00 00	coo	One of the following:		SOC 502 Social Theory	5
SOC	409 Social Thought	300	One of the following:		300 302 300iai Theory	×
SOC	304 Minority Groups 5	SOC	520 Racial/Ethnic Rel		ANT 313 Status of Women	
CR	510 Wom. in CJ Sys 5	SOC	511 Third World Develop	5	SOC 515 Social Stratification	5
200	DOS Carintage of the Escale.		One of the following:	79 Samin	ar in Sociology of the Law	5
SOC	301 Sociology of the Family 509 Sociology of Religion				ar in Medical Sociology	
-			One of the following:			
	202 Social Problems	SOC	477 Sociology of Aging		SOC 525 Social Deviance	
CR	302 Criminology 5	CH	One of the following:	9	CH 501 Drugs & Society	2
SOC	204 Social Behavior	onome		34 Social	zation	5
			One of the following:			_
	504 Sociology of Power 5		505 Urban Sociology 518 Soc. of Occupations		SOC 507 Pub. Opinion & Prop RSY Elective	
SOC	508 Industrial Sociology 5 ANT/RSY	500	518 SOC. Of Occupations		NOT CIDUITY	
503	Militar measurant of a		Total hours in major: 60			
			SUPPORTING COURSES			
	Concentration of 20 hours.		COM 1	00 Prof. 0	comm.	3
	22/19/19/19/19/19/19/19/19		Other: Electives, 33 hours.			
		T	OTAL HOURS REQUIRED, 1	192		
			Spanish Major (SP	9)		
			UNIVERSITY CORE		and the state of t	
EH	110 English Composition5	EH			EH 220-221 Grt. Bks. I & II 1	
Core	History (p. 39) 3-3-3 101 Society & Culture 3	U	Mathematics (p. 39) 102 Political Economy		Core Fine Arts (p. 39)	
SM	101 or Core Science (p. 39) 5		Science (p. 39)		Core Philosophy (p. 39)	
			COLLEGE CORE			
	And the last personnel to the contract personnel to	SP	101-102-103	5-5-5		
			MAJOR			
SP	201-202-203 Int. Span 4-4-4	SP	301 Phonetics		SP 302 Syntax	
SP	303 Conversation 3	SP	304 Composition		SP 305 Intro. Hispanic Lit	d
а	nd 18 additional credit hours in cou	ises nu	SUPPORTING COURSES		43.	
		cos	M 100 Prol. Comm			
	100000000000000000000000000000000000000	001	Other: Electives, 68 hours.			
		T	OTAL HOURS REQUIRED.			
			Theatre Major (TH	1)		
			UNIVERSITY CORE		mil and and and and and	(in
EH	110 English Composition 5	EH	400 Adv. Comp. (p. 39) e Mathematics (p. 39)		EH 220-221 Grt. Bks. I & II	
Core	History (p. 39) 3-3-3 101 Society & Culture 3	U	102 Political Economy		U 103 Indiv. & Society	
SM	101 or Core Science (p. 39) 5		e Science (p. 39)		Core Philosophy (p. 39)	
			COLLEGE CORE			
11		FL	Foreign Language	5-5-5	11001011/0101011011011011011011011011011	

			MAJOR		
TH	200 Intro. to Acting 3	TH	231 Theatre Technology I 3	TH	240 Theatrical Design
TH	261 Costume Construction 3	TH	265 Stage Makeup 3	TH	271 Play Analysis 3
TH	272 Dramatic Literature 3	TH	284 Dance Techniques 2	TH	321 Directing Fundamentals 3
THE	371 History of Theatre I 3	TH	372 History of Theatre II 3	TH	373 History of Theatre III 3
394	Theatre Electives 13	TH	300 Theatre Lab		

TOTAL HOURS REQUIRED, 192

# School of Fine Arts

In all Fine Arts curricula, the student is to complete two designated writing reinforcement courses during the junior and senior years. Electives may include six hours Basic ROTC and six hours Advanced ROTC. In curricula which do not provide sufficient electives for this purpose, ROTC may be taken in lieu of required courses not in the University core to be selected with help of departmental advisor.

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## Department of Art

The Visual Arts curriculum offers two options: In Visual Communications it prepares students to become graphic designers, illustrators, advertising artists and art directors. In Fine Arts it prepares students to become painters, sculptors, printmakers and ceramicists. Both program options lead to the Bachelor of Fine Arts degree. The programs of studio courses are combined with study of the historical and cultural background of the visual arts. Courses in general education promote an understanding of the artist's roles and responsibilities in society. A structured program of fundamentals and intermediate courses precedes advanced courses in which students work independently with the guidance of instructors.

The Visual Communications program gives fundamental training in the techniques of graphic design and related areas of visual communication. It is strongly reinforced with courses in painting, drawing, printmaking, sculpture, ceramics and art history. In the Fine Arts program, students preparing themselves as practicing artists or artist-teachers may concentrate entirely upon the offerings in the traditional fine arts media. Students planning to teach at the college level need to secure a Master of Fine Arts degree at this or another institution.

The Visual Arts curriculum may be divided into three general categories: academic courses, studio courses and courses in art history. Studio courses are divided into three progressive group levels. The first year is made up of visual art fundamentals. The second and third years contain classes in basic traditional media in which the student learns technical procedures and develops the disciplines necessary to self expression in the third and fourth year areas of concentration. The third and fourth year areas include visual design and illustration, or drawing, painting, printmaking, sculpture and ceramics.

The department also offers a limited number of courses for education majors specializing in art, and for students in other fields who seek general knowledge and appreciation of the visual arts.

The Department of Art is an accredited member of the National Association of Schools of Art and Design, and a member of the College Art Association.

#### Transfer

All course work to be considered for transfer credit should be the equivalent of work required in the Visual Arts curriculum at Auburn. Art studio course credit earned (**C** or better) will be considered for advanced standing if a complete portfolio of work is submitted to the Auburn Art Department for evaluation. If the examples do not approximate Auburn's requirements, then credit may be given for an art studio elective. If the quality of work is not acceptable, credit may be given for an open elective. Transfer students are advised that their degrees may require more than a total of four years because of the professional nature of Auburn's curriculum, the sequential arrangement of its courses, and heavy demands for enrollment.

## Graduate Study in Fine Arts

Students who hold the degree of Bachelor of Fine Arts, or a similar degree, are eligible to apply to the Dean of the Graduate School for admission to the graduate program leading to the Master of Fine Arts degree. For details examine the *Graduate School Bulletin*.

#### Curriculum in Art

			FRESHMAN YEAR		
AT	111 Fundamentals 4	AT	112 Fundamentals 4	AT	113 Fundamentals 4
AT	121 Fundamentals 4	AT	122 Fundamentals	AT	123 Fundamentals 4
AT	171 History of Art 3	AT	172 History of Art 3	AT	173 History of Art3
EH	110 Eng. Comp 5		Philosophy (p. 39)	HY	101 Core History (p. 39) 3
-				Core	e Fine Arts (p. 39)
			SOPHOMORE YEAR		
AT	211 Basic Fig. Dwg 4	AT	212 Fig. Constm 4	AT	213 Fig. Drawing 4
AT	Group A Studio 4	AT	Group A Studio4	AT	Group A Studio
EH	220 Great Books 1 5	EH	221 Great Books II	AT	Art History 3
Core		Core	History (p. 39)	Con	e Mathematics (p. 39)
			JUNIOR YEAR		
AT	Group A Studio4	AT	Group A Studio4	AT	Group A Studio4
AT	A or B Studio 4	AT	A or B Studio4	AT	A or B Studio4
AT	Art History	AT	Art History 3	AT	Group B Studio4
	Science (p. 39) 5	Core	Science (p. 39)5	EH	Adv. Comp. (p. 39) 5
			SENIOR YEAR		
AT	A or B Studio 4	AT	Group B Studio4	AT	499 Senior Project5
AT	Group B Studio4	AT	Studio or AT HY4	AT	Studio or AT HY4
AT	Studio or AT HY 4	AT	Studio or AT HY4	AT	Studio or AT HY 4
U	101 Soc., Cult. & Env	U	102 Political Economy	U	103 Indiv. & Society 3
Free	and the same of th		minimum district the second		

#### TOTAL - 195 HOURS

#### GROUP A STUDIO

Figure Drawing: AT 211 Basic, AT 212 Construction, AT 213.

Drawing: AT 214, 215, 216.

Visual Communications: AT 221 Graphic Processes, AT 222 Design Systems, AT 223 Graphic Formats, AT 321 Photodesign. AT 322 Photocommunication, AT 323 Typographics, AT 324 Electronic Graphic Design.

Painting: AT 231-331 Oil, AT 232-332 Watercolor, AT 233-333 Acrylic

Printmaking: AT 241-341 Relief, AT 242-342 Intaglio, AT 243-343 Lithography.

Sculpture: AT 251-351 Clay, AT 252-352 Wood, AT 253-353 Stone.

Ceramics: AT 255-355

#### **GROUP B STUDIO**

Visual Design: AT 424-425-426.

Advanced Painting/Drawing: AT 434-435-436.

Advanced Printmaking: AT 444-445-446.

Advanced Sculpture: AT 454-455-456

Advanced Ceramics: AT 457-458-459.

Illustration: AT 464-465-466.

Prerequisites: 18 hours of art history, a 2.25 average in the three 200-level Figure Drawing courses, and minimum requirements listed below, or a portfolio acceptable to an appropriate faculty committee in student's proposed area of concentration.

sar my m bearinging my	
AT 424-425-426 V	risual Design I, II, II
AT 434-435-436 A	dv. Painting/Drawing I, II, III
AT 444-445-446 A	dv. Printmaking I, II, III
AT 454-455-456 A	Adv. Sculpture I, II, III
AT 457-458-459 A	Adv. Ceramics I, II, III
AT 464-465-466 I	

# Department of Music

The Department of Music provides instruction and performing experience to students interested in developing their talents in music. The courses of study provided by the Department have been created to present a balance between creative skills and academic studies, allowing at the same time a certain flexibility to meet individual requirements.

The Department of Music offers the Music major a professional curriculum leading to the Bachelor of Music degree, with tracks in (a) Performance, (b) Composition, (c) Church Music, (d) Piano Pedagogy, or (e) Jazz Studies. These programs provide preparation for the professional field of performance and for private or college teaching of applied music and composition. They also provide training for church organists and choir directors.

Students pursuing the Bachelor of Music Education degree will register through the College of

Education.

For the student wishing to major in Music History and Literature, the Department of Music offers a program of studies leading to the Bachelor of Arts degree. This is a cultural, not a professional, degree. See "Music Major" in the Liberal Arts Curriculum.

All music majors must perform an entrance audition and take a placement examination in music theory. Non majors will be asked to audition for placement in private instruction. Certain performing groups will require auditions as well.

Private instruction is generally available to all university students in band and orchestral instruments, guitar, voice, piano and organ. Performance groups, such as the Marching and Concert Bands, Orchestra, University Singers, Concert Choir, Women's Chorus and Men's Chorus, Opera Workshop and various instrumental ensembles, are also available to students in all curricula.

In each curriculum track six hours of Basic and six hours of Advanced ROTC may be scheduled in lieu of 12 hours of general electives.

#### Graduate Work in Music

Admission to graduate work toward the Master of Music Degree requires a Bachelor's degree in music, music education, or the equivalent from this or another recognized institution. Admission to graduate study in the Music Department shall be in accordance with policies of the Graduate School. In addition, all candidates must take entrance examinations in music theory and history administered by members of a Departmental Screening Committee, demonstrate competency at the keyboard, and fulfill additional requirements as follows:

Instrumental Majors - Audition

Voice Majors - Audition and demonstration of satisfactory diction in Italian, French and German. Choral Conducting Majors - Interview

## Music Organizations

Several musical organizations, sponsored by the University and directed by the Department of Music, provide excellent training in group music. See section on musical groups in the student handbook, Tiger Cub. These activities, which are open to students of the university, may be taken with or without credit.

## Supplementary Requirements for Bachelor of Music and Bachelor of Arts Degree Candidates

- 1. All Music Majors and Music Education Majors taking MU 100 are to attend 80 percent (or nine, whichever is less) of the concerts and Wednesday afternoon convocations on the approved list compiled by the departmental office. This is on a pass/fail basis. The list of approved concert offerings is to be prepared by the departmental office each quarter and distributed to all students at the first convocation. A signed program is to be collected by a person designated by the departmental office. These are to be recorded by office personnel along with convocation attendance. Students must complete the appropriate number of quarters of convocation to clear graduation. Absences may be excused only by the Head of the Music Department.
- At the end of the Sophomore year a comprehensive examination will be given which must be passed before the student is admitted to the upper division music courses. Transfer students must complete this examination to receive junior standing.
- a. Students electing the performance track will present a junior recital during the third year of study and a senior recital during the fourth year of study.
  - Students electing the Composition track will present an original composition in small form during the third year of study and an original composition in large form during the fourth year of study.
  - Students electing the History and Literature track will present a written thesis during the fourth year of study.
  - Students electing the Church Music track will present a senior recital during the fourth year of study. The major performance area must be in organ or voice.
  - Students electing the Piano Pedagogy track will present a senior recital during the fourth year of study.
- Credit in private instruction is based on the amount of practice, each credit hour requiring a minimum of five hours practice per week.
- Students whose major performing medium is not piano or organ will elect piano as the minor instrument.

- Participation in an approved music performing group is required each quarter, with or without credit. Participation in opera workshop is required of junior and senior voice majors.
- All students taking private instruction will meet public performance requirements as designated by the faculty. (See Music Department special regulations regarding requirements for jury examinations and convocation performances.)

#### Basic Bachelor of Music Curriculum

			FRESHMAN YEAR		
MU MU EH Core MU	100 Perform. Attendance		100 Perform. Attendance	MU MU Core MU	100 Perform Attendance
MU MU EH U	100 Perform. Attendance	MU MU EH U	100 Perform, Attendance 0 232 Mat. & Org 5 221 Great Books II 5 102 Political Economy 3	MU MU Core U MU	100 Perform. Attendance
MU MU Core	100 Perform. Attendance 0 351 Music History	MU MU Core	JUNIOR YEAR  100 Perform, Attendance 0  352 Music History 3  Science (p. 39) 5	MU MU EH	100 Perform. Attendance 0 353 Music History 3 Adv. Comp. (p. 39) 5
MU FL	100 Perform. Attendance 0 Foreign Language 5	MU FL	SENIOR YEAR 100 Perform Attendance 0 Foreign Language 5	MU FL MU	100 Perform, Attendance 0 Foreign Language 5 040 Senior Project 0

#### Music Performance Track

Required in Addition to Basic Bachelor of Music Curriculum

	FRESHMAN YEAR	
MUA 181 Performance (major) 3	MUA 181 Performance (major) 3	MUA 181 Performance (major) 3
MUA 187 Performance 1	MUA 187 Performance1	MU 187 Performance
MU Perform Group 1	MU Perform. Group1	MU Perform. Group 1
	SOPHOMORE YEAR	
MUA 181 Performance (major) 3	MUA 181 Performance (major) 3	MUA 181 Performance (major) 3
MUA 187 Performance	MUA 187 Performance1	MU 187 Performance1
MU Perform, Group 1	MU Perform Group1	MU Perform, Group1
MU Ensemble * 1	MU Ensemble *1	MU Ensemble " 1
	JUNIOR YEAR	
MUA 381 Performance (major) 3	MUA 381 Performance (major) 3	MUA 381 Performance (major) 3
MU 331 Mat. & Org 3	MU 332 Mat. & Org3	MU 333 Mat & Org3
MU 361 Conducting 2	MU 362 Conducting2	MU 363 Conducting2
MU Ensemble 1	MU Ensemble 1	MU Ensemble1
Elective	Elective	Elective3
	SENIOR YEAR	
MUA 381 Performance (major) 3	MUA 381 Performance (major) 3	MUA 381 Performance (major) 3
MU 452 or 454	MU Pedagogy 3	Elective4
MU Ensemble 1	MU Ensemble1	- minimenamenummoromen
Elective	Elective	
	TOTAL - 211 OLIAPTED HOURS	

TOTAL - 211 QUARTER HOURS

### **Music Composition Track**

Required in Addition to Basic Bachelor of Music Curriculum

				PRESHMAN TEAN		
	MUA	184 Performance	1 MUA	184 Performance1	MUA	184 Performance 1
	MU	154 Composition	1 MU	155 Composition 1	MU	156 Composition1
	MU	Perform. Group		Perform. Group1		Perform Group1
					Elect	ive3
				SOPHOMORE YEAR		
	MUA	184 Performance	1 MUA	184 Performance 1	MUA	184 Performance1
	MU	254 Composition		255 Composition1	MU	256 Composition1
	MU	Perform. Group		Perform. Group1	MU	Perform. Group1
í	MU	Ensemble		Ensemble 1	MU	Ensemble1

in lieu of three quarters of Ensemble, Vocal Performance Majors will take FL 391, Lyric Diction.

			JUNIOR YEAR		
MUA	384 Performance 1	MUA.	384 Performance 1	MUA	384 Performance 1
MU	331 Mat. & Org 3	MU	332 Mal. & Org	MU	333 Mat. & Org
MU	361 Conducting 2	MU	362 Conducting 2	MU	363 Conducting 2
MU	334 Composition1	MU	335 Composition 1		336 Composition 1
MU	337 Modern Harmony 3	MU	338 Modern Harmony 3	MU	339 Modern Harmony 3
MU	Perform. Group 1	MU	Perform. Group1	MU	Perform. Group1
			SENIOR YEAR		
MU	384 Performance 1	MU	384 Performance 1	MU	384 Performance 1
MU	435 Composition 3	MU	436 Composition 3	MU	437 Composition3
MU	537 Orchestration 3	MU	300 Electronic Music		Perform. Group1
MU	Perform. Group 1	MU	Perform, Group1	Electi	ve4
Electi	ve 6		ve 6		moreone management and a second

#### Church Music Track

Required in Addition to Basic Bachelor of Music Curriculum

	classes and		The manufacture of models		00.0171
MUA MUA MU	184 Performance (major) 1 187 Performance 1 Perform. Group 1	MUA MUA MU	FRESHMAN YEAR           184 Performance (major)         1           187 Performance         1           Perform. Group         1	MUA	184 Performance (major) 1 187 Performance 1 Perform. Group 1 live 6
	1751171347117117117117117171717171717171717		SOPHOMORE YEAR	Lieu	0.00
MUA MUA	181 Performance (major) 3 187 Performance	MUA MUA MU	181 Performance (major) 3 187 Performance		181 Performance (major) 3 187 Performance 1
MU	Perform. Group	MU	Perform. Group	MO	Perform. Group
MUA	381 Performance (major)3	MU	381 Performance (major) 3	MU	381 Performance (major) 3
MU	331 Mat. & Org 3	MU	332 Mat. & Org3	MU	333 Mat. & Org
MU	311 Liturgies 3	MU	312 Hymnology 3	Elect	live ,3
MU	Ensemble 1	MU	Ensemble 1	MU	Ensemble1
			SENIOR YEAR		
MUA	381 Performance (major) 3	MUA	381 Performance (major) 3	MU	381 Performance (major) 3
MU	361 Conducting 2	MU	362 Conducting 2	MU	416 Church Music Sem 3
MU	Ensemble 1	MU	415 or 422 3	MU	453 Choral Literature 3
Electi	ve 6	MU	Ensemble 1	MU	Ensemble 1
	***************************************	Electi			WHATE PROPERTY OF THE PARTY OF
		TO	TAL - 212 OLIARTER HOLIRS		

# Piano Pedagogy Track

## Required in Addition to Basic Bachelor of Music Curriculum

			FRESHMAN YEAR		
MUA	184 Performance (piano) 1	MUA	184 Performance (plano) 1	MUA	184 Performance (piano) 1
MUA	187 Performance 1	MUA	187 Performance 1		187 Performance 1
MU	327 Piano Ensemble 1	MU	327 Piano Ensemble 1	MU	327 Piano Ensemble 1
				Elect	
			SOPHOMORE YEAR		
MUA	184 Performance (piano) 1	MUA	184 Performance (piano) 1	MUA	184 Performance (piano) 1
MUA	187 Performance 1	MUA	187 Performance 1		187 Performance 1
MU	327 Plano Ensemble 1	MU	327 Piano Ensemble 1	MU	327 Piano Ensemble 1
Elect	ive 1	Electi	ve 1	Elect	
			JUNIOR YEAR		
MUA	381 Performance (piano) 3	MUA	381 Performance (piano) 3	MUA	381 Performance (piano) 3
CIM	304 Music & Rel. Arts 5	CIM	596 Curr, Trends	FED	300 Educ. Psych 5
MU	457 Keyboard Lit 1	MU	458 Keyboard Lit 1	MU	459 Keyboard Lit 1
MU	324 Accompanying 1	MU	325 Accompanying 1	MU	326 Accompanying 1
			SENIOR YEAR		
MUA	381 Performance (piano) 3	MUA	381 Performance (piano) 3	MUA	381 Performance (piano) 3
MU	300 Electronic Studio	MU	361 Conducting2	MU	362 Conducting 2
MU	424 Accompanying 1	MU	425 Accompanying1	MU	426 Accompanying 1
MU	447 Piano Pedagogy 3	MU	448 Piano Pedagogy 3	MU	449 Piano Pedagogy 3
MU	471 Piano Sk. & TT 2	MU	472 Piano Sk. & TT	MU	473 Piano Sk. & TT 2
Elect	ve1	Electi		Electi	
		TO	TAL - 206 QUARTER HOURS		

#### Jazz Studies Track

Required in Addition to Basic Bachelor of Music Curriculum

			FRESHMAN YEAR		
MUA	184 Performance 1	MUA	184 Performance 1	MUA	184 Performance 1
MU	134 Lab Band 1	MU	134 Lab Band T	MU	134 Lab Band 1
			· · · · · · · · · · · · · · · · · · ·	Elect	ve6
			SOPHOMORE YEAR		
MUA	184 Performance 1	MUA	184 Performance 1	MUA	184 Performance 1
MU	200 Jazz Plano 1	MU	201 Jazz Piano 1	MU	202 Jazz Piano 1
MU	134 Lab Band †	MU	134 Lab Band 1	MU	134 Lab Band 1
Electi	ve	Electi	ve 3	Elect	ive
			JUNIOR YEAR		
MUA	384 Performance	MUA	384 Performance 1	MUA	384 Performance1
MU	331 Mat. & Org	MU	332 Mat. & Org	MU	300 Electronic Studio 3
MU	341 Jazz Theory 3	MU	342 Jazz Theory3	MU	343 Jazz Theory
MU	344 Jazz Repertoire 3	MU	345 Jazz Repertoire	MU	346 Jazz Repertoire 3
MU	134 Lab Band 1	MU	134 Lab Band1	MU	134 Lab Band1
			SENIOR YEAR		
MUA	384 Performance 1	MUA.	384 Performance 1	MUA	384 Performance 1
MU	361 Conducting 2	MU	362 Conducting 2	MU	439 Jazz Improvisation 3
MU	437 Jazz Improvisation 3	MU	438 Jazz Improvisation 3	MU	463 Jazz Comp. & Arr
MU	461 Jazz Masterworks 3	MU	462 Jazz Comp. & Arr	MU	134 Lab Band1
MU	134 Lab Band1	MU	134 Lab Band 1		
Electi	ve	Electi	ve		

#### **TOTAL - 210 QUARTER HOURS**

# Department of Theatre

The Department of Theatre provides instruction and production experience to students interested in developing their talents in the theatre arts, whether as majors or non-majors. Consequently, a broad range of classroom, laboratory, and performance experiences is provided in acting, directing, scenic and lighting design, costume design, theatre technology, construction and crafts, theatre history, dramatic literature, theatre criticism, theatre administration and management.

The Bachelor of Arts degree is designed for students seeking to study theatre within the liberal arts curriculum. The B.A. (THLA) is for students who choose to study theatre as a humanistic discipline or who wish to concentrate in theatre history/criticism, dramatic literature, performance or production.

The Bachelor of Fine Arts degree is for students who have specific professional goals in mind. The B.F.A. (TH) is for students seeking professional training and/or desiring an intensive program in a specific area of theatre. Admission to the program, generally at the end of six quarters of study at Aubum University or the end of the sophomore year, is by audition or presentation of portfolio for the Theatre faculty. Students are expected to maintain a 2.7 grade-point average in their area of emphasis, subject to continued quarterly review by the faculty. Final recommendation for graduation is made after the successful presentation of a recital or a major role or the successful execution of a design or major project during the student's final year.

## Theatre B.F.A. - Performance Major

			FRESHMAN YEAR		
TH	300 Theatre Lab 1	TH	300 Theatre Lab 1	TH	300 Theatre Lab 1
EH	110 English Comp 5	TH	271 Play Analysis	TH	261 Costume Construction 3
TH	231 Theatre Tech. I	TH	265 Stage Makeup 3	TH	284 Dance Techniques 2
Core	History (p. 39) 3	Core	History (p. 39)	Core	e History (p. 39)3
	Antestalistina anastrono antestalisti			Core	Philosophy (p. 39)5
			SOPHOMORE YEAR		
TH	300 Theatre Lab 1	TH	300 Theatre Lab1	TH	300 Theatre Lab 1
TH	211 Beg. Voice for the Actor 2	TH	214 Beg. Acting3	TH	212 Intermed. Voice
TH	240 Theat, Design	TH	272 Dramatic Literature 3	TH.	314 Intermed. Acting
Core	Mathematics (p. 39) 5	EH	220 Great Books I 5	EH	221 Great Books II
U	101 Soc., Cult. & Env 3	U	102 Political Economy	U	103 Indiv. & Soc
	fertherhealternessessimmers remove ware.			Core	e Fine Arts (MU or AT) (p. 39) 3

TH. TH					
			JUNIOR YEAR		
TH	300 Theatre Lab 1	TH	300 Theatre Lab 1	TH	300 Theatre Lab 1
1.5.4	311 Studio: Voice I 2	TH	312 Studio: Voice II	TH	313 Studio: Voice III
TH	315 Studio: Acting I 3-	TH	316 Studio: Acting II	TH	317 Studio: Acting III 3
TH	371 Hist. of the Theatre I 3	TH	372 Hist. of the Theatre II 3	TH	373 Hist. of the Theatre III 3
TH	489 or 218 2	TH	489 or 218 2	TH	489 or 2182
Con	e Science (p. 39) 5	Core	Science (p. 39)5	EH	400 Adv. Comp 5
			SENIOR YEAR		
TH	300 Theatre Lab 1	TH	300 Theatre Lab1	TH	300 Theatre Lab 1
TH	321 Dir. Fundamentals 3	TH	412 Studio:Voice V2	TH	413 Studio:Voice VI2
TH	411 Studio: Voice IV2	TH	416 Studio: Acting V3	TH	417 Studio: Acting VI
TH	415 Studio: Acting IV	TH	489 or 318	TH	489 or 3182
TH	489 or 318 2		s or Religion5		GY, PG OR SOC
PO	209 Amer. Government 5		ives		tives 6
			OTAL - 192 QUARTER HOURS		
	Theatre	RE	A Design/Technolog	m M	aior
	Theatre	D.F.	FRESHMAN YEAR	gy IVI	ajoi
TH	300 Theatre Lab 1	TH	300 Theatre Lab1	TH	300 Theatre Lab 1
TH	200 Intro, to Acting 3	TH	232 Theatre Tech. II	TH	261 Costume Const
TH	231 Theatre Tech. I	TH	271 Play Analysis	TH	284 Dance Tech
EH	110 English Comp		ive		Philosophy (p. 39)5
-	History (p. 39) 3		History (p. 39)		History (p. 39)3
CON	tribioly (p. 55)	COIL	rustory (p. 35)		100 Comp. App3
	Propositional community and a second		SOPHOMORE YEAR	OOL	Too odilp. App
TH	200 Theates Lab	TH		TH	300 Theatre Lab 1
TH	300 Theatre Lab	TH	300 Theatre Lab	U	103 Indiv. & Society
TH	340 Rend for Theatre 4	TH	363 Costume Const. II	EH	220 Great Books I
		TH	Elective 4	SM	101 or Core Science
U	e Mathematics (p. 39)	U	102 Political Economy 3		tive3
0	101 Soc., Colt. of Edv	u	JUNIOR YEAR	Linu	live manning manning or o
71.1	200 Thursday 1 - 1	-		***	200 70-11-1-1
TH	300 Theatre Lab 1	TH	300 Theatre Lab 1	TH	300 Theatre Lab 1
TH	371 Hist, of Theatre I	TH	265 Stage Makeup 3	TH	321 Directing Fund 3
	Electives	TH	272 Dramatic Literature 3	EH	373 Hist. of Theatre III
	e Science (p. 39)	TH	372 Hist. of Theatre II 3		400 Adv. Composition5
Con	Fine Arts (AT or MU) (p. 39) 3	EH	221 Great Books II5	1ecr	. & Design Electives 4
			SENIOR YEAR		
					300 Theatre Lab 1
TH	300 Theatre Lab 1	TH	300 Theatre Lab1	TH	
Tech	n. & Design Elect 9	TH	376 Prod. Mgmt. & TD 3	TH	499 Senior Project
Tech		TH			
Tech	n. & Design Elect 9	TH Tech	376 Prod. Mgmt. & TD 3	TH	499 Senior Project
Tech	h. & Design Elect	TH Tech	376 Prod. Mgmt, & TD	TH	499 Senior Project
Tech	h. & Design Elect	TH Tech	376 Prod. Mgmt. & TD	TH	499 Senior Project
Tech	h. & Design Elect	TH Tech	376 Prod. Mgmt, & TD	TH	499 Senior Project
Tech	## A Design Elect	TH Tech To	376 Prod. Mgmt, & TD	TH TH	499 Senior Project
Tech Gen	## A Design Elect	F.A.	376 Prod. Mgmt. & TD	TH TH	499 Senior Project
Tech Gen TH TH	## A Design Elect ## 9 ## Education Elect ## 6  Theatre B.  300 Theatre Lab ## 1 200 Intro. to Acting ## 3 231 Theatre Tech.   3	F.A.	376 Prod. Mgmt. & TD	ment	499 Senior Project
Tech Gen TH TH TH	## A Design Elect	F.A. TH TH CSE	376 Prod. Mgmt. & TD	ment TH TH TH TH TH TH TH TH TH TH	499 Senior Project
Tech Gen TH TH TH HY	## A Design Elect ## 9 ## Education Elect ## 6  Theatre B.  300 Theatre Lab ## 1 200 Intro. to Acting ## 3 231 Theatre Tech.   3	F.A. TH TH CSE	376 Prod. Mgmt, & TD	ment TH TH TH TH TH TH HY Core	499 Senior Project
Tech Gen TH TH TH HY	## A Design Elect	F.A. TH TH CSE	376 Prod. Mgmt. & TD	ment TH TH TH TH TH TH HY Core	499 Senior Project
Tect Gen TH TH TH HY EH	## A Design Elect	TH Tech To F.A. TH TH CSE HY Elect	376 Prod. Mgmt. & TD	TH TH TH TH HY Core	499 Senior Project
Tect Gen TH TH TH HY EH	## A Design Elect ## 9 ## Education Elect ## 6  Theatre B.  300 Theatre Lab ## 1 200 Intro. to Acting ## 3 231 Theatre Tech   ## 3 101 World History ## 3 110 English Comp. ## 5  300 Theatre Lab ## 1	TH Tech To F.A. TH TH CSE HY Elect TH	376 Prod. Mgmt. & TD	TH TH TH TH TH HY Core Elec	499 Senior Project
Tect Gen TH TH TH TH EH	## A Design Elect	TH Tech TC  F.A.  TH TH CSE HY Elect TH TH	376 Prod. Mgmt. & TD	TH TH TH TH TH TH HY Core Elec	499 Senior Project
THE	## A Design Elect	TH Tech TC  F.A.  TH TH CSE HY Elect TH TH TH TH	376 Prod. Mgmt. & TD	TH T	499 Senior Project
THE THE THE THE CORE U	## A Design Elect ## 9 ## Education Elect ## 6  Theatre B.  300 Theatre Lab ## 1 200 Intro. to Acting ## 3 231 Theatre Tech   3 101 World History ## 3 110 English Comp. ## 5  300 Theatre Lab ## 1 240 Theatrical Design ## 3 8 Mathematics (p. 39) ## 5 101 Soc., Cult. & Env. ## 3	TH Tech TC  F.A.  TH TH CSE HY Elect TH TH	376 Prod. Mgmt. & TD	TH T	499 Senior Project
THE	## A Design Elect	TH Tech TC  F.A.  TH TH CSE HY Elect TH TH TH TH	376 Prod. Mgmt. & TD	TH T	499 Senior Project
THE THE THE THE CORE U	## A Design Elect ## 9 ## Education Elect ## 6  Theatre B.  300 Theatre Lab ## 1 200 Intro. to Acting ## 3 231 Theatre Tech   3 101 World History ## 3 110 English Comp. ## 5  300 Theatre Lab ## 1 240 Theatrical Design ## 3 8 Mathematics (p. 39) ## 5 101 Soc., Cult. & Env. ## 3	TH Tech TC  F.A.  TH TH CSE HY Elect TH TH TH TH	376 Prod. Mgmt. & TD	TH T	499 Senior Project
THE THE THE CORE	Theatre B.  300 Theatre Lab 1 200 Intro. to Acting 3 231 Theatre Tech. 1 3 101 World History 3 110 English Comp. 5  300 Theatre Lab 1 240 Theatre Lab 1 240 Theatrical Design 3 Mathematics (p. 39) 5 101 Soc., Cult. & Env. 3 3 10 Prin, Mgt. 4	TH Tech To  F.A.  TH TH CSE HY Elect TH TH TH SM U	376 Prod. Mgmt. & TD	TH TH TH HY Core Elec	499 Senior Project
THE THE THE CORE	Theatre B.  300 Theatre Lab 1 200 Intro. to Acting 3 231 Theatre Tech. I 3 101 World History 3 110 English Comp. 5  300 Theatre Lab 1 240 Theatre Lab 1 240 Theatre Lab 1 34 Mathematics (p. 39) 5 101 Soc., Cult. & Env. 3 310 Prin. Mgl. 4	F.A.  TH THE CSE HY Elect	376 Prod. Mgmt. & TD	TH TU Core Elec TH EH U Core Fine	499 Senior Project
Tect Gen	Theatre B.  300 Theatre Lab 1 200 Intro. to Acting 3 231 Theatre Tech. I 3 101 World History 3 110 English Comp. 5  300 Theatre Lab 1 240 Theatrical Design 3 3 Mathematics (p. 39) 5 101 Soc., Cult. & Env. 3 310 Prin, Mgl. 4	F.A. HITSELY ELECT TITIES TITIES	376 Prod. Mgmt. & TD	TH TH TH TH TH TH HY Core Elec TH EH U Core Fine	499 Senior Project
Tect Gen  HHHHH HHCOME	Theatre B.  300 Theatre Lab 1 200 Intro. to Acting 3 231 Theatre Tech. 1 310 English Comp. 5  300 Theatre Lab 1 240 Theatre Lab 1 240 Theatrical Design 3 3 Mathematics (p. 39) 5 101 Soc., Cult. & Env. 3 310 Prin. Mgl. 4  300 Theatre Lab 1 320 Stage Mgt. 3 371 Hist. Theatre 1 3	F.A. HITSELY ELECT TITIES TITIES	376 Prod. Mgmt. & TD	TH T	499 Senior Project
Tect Gen	Theatre B.  300 Theatre Lab	F.A. HITCSE HY Elect TITIES SM U TITIES Perf.	376 Prod. Mgmt. & TD	TH TH  TH TH  TH TH  TH TH  TH  TH  TH	499 Senior Project
THE THE THE THE	Theatre B.  300 Theatre Lab 1 200 Intro. to Acting 3 231 Theatre Tech. I 3 101 World History 3 110 English Comp. 5  300 Theatre Lab 1 240 Theatrical Design 3 Mathematics (p. 39) 5 101 Soc., Cult. & Env. 3 310 Prin, Mgt. 4  300 Theatre Lab 1 320 Stage Mgt. 3 371 Hist. Theatre I 3 221 Great Books II 5 Electives 4	THE TECHNIC THE	376 Prod. Mgmt. & TD	TH T	499 Senior Project
Tect Gen  TITIES TITIES TITIES  TITIES TITIES	Theatre B.  300 Theatre Lab	THE TECHNIC THE	376 Prod. Mgmt. & TD	TH T	499 Senior Project
THE THE THE COME THEFT	Theatre B.  300 Theatre Lab	THE TECHNIC THE	376 Prod. Mgmt. & TD	TH T	499 Senior Project
THE THE THE COME THEFT	Theatre B.  300 Theatre Lab	THE TECHNIC THE	376 Prod. Mgmt. & TD	TH T	499 Senior Project

# School of Nursing

#### EDETH K. KITCHENS, Dean

THE SCHOOL OF NURSING, established in 1979, offers a program of study leading to the degree of Bachelor of Science in Nursing.

The nursing curriculum is designed to prepare beginning professional nurse generalists who are capable of fuctioning as members of the health-care team in providing care for individuals and groups in diverse settings. The program also provides an educational base for advancement in formal study, research and practice. The facilities and resources of the University are used to provide a broad academic background in the humanities and sciences. Graduates are eligible to take the NCLEX-RN examination to become registered nurses.

A pre-professional program in Nursing Science is required of students seeking admission to the professional curriculum. The first two years of course work are designated as Pre-Nursing (NS). The Professional Program (NUR) requires seven quarters of study, including classroom, laboratory and clinical experiences.

## Curriculum in Pre-Nursing Science (NS)

			LEVEL 1		
	First Quarter		Second Quarter		Third Quarter
EH U MH NUR	110 Eng. Comp. 5 101 Soc. & Culture 3 160 Pre-Calc. & Trig. 5 101 Orient. to Nursing 2	U HY SM CH	102 Polit. Econ	D HY CH CH PG	103 Indiv. in Society
			LEVEL II		
EH HY BY NFS	220 Great Books I	EH ZY MB	221 Great Books II	NUR ZY PA	201 Statistics       3         251 Physiology       5         218 Ethics       5         Elective       3

#### TOTAL - 95 QUARTER HOURS

#### Curriculum in Professional Nursing (NUR)

			LEVEL III	
NUR NUR NUR ZY	302 Dim. of Prof. Nsg.       2         303 Health Assessment       4         310 Nsg. Concepts I       8         440 Clin. Physiology       3	NUR ZY NUR	311 Nsg. Concepts II	NUR 313 Psy/Men. Hith. Nsg
				NUR 312 Nsg. Concepts III
			SUMMER	
		NUR	312 Nsg. Concepts III	
		NUR	313 Psy./Mental Hith, Nsg 7	
		NUR	435 Info. Mgt. in Nsg	
		NUR	495 Mgt. in Nsg3	
			LEVEL IV	
NUR	422 F&C Hith. Nursing or	NUR	460 Nsg. Concepts IV or	NUR 499 Senior Practicum 15
NUR	460 Nsg. Concepts IV 12	NUR	422 F&C Hith. Nursing 12	NUR 450 Senior Seminar3
NUR	432 Nsg. Research 3	EH	400 English Comp 5	
NUR	Elective			
		TO	TAL — 210 QUARTER HOURS	

Students should take CH 101 unless they have had high school chemistry and scored at least 25 on the ACT or 1130 on the SAT. See advisor for study plan taking CH 103.

#### Admission

Freshman eligibility is determined by the University Admissions Office. Admission requirements are stated elsewhere in this Bulletin. High school mathematics, chemistry and biology courses are strongly recommended, along with other college preparatory courses in social science, history, literature and English composition.

Transfers from other institutions must apply through the University Admissions Office. Review of transcripts by the School of Nursing will determine the amount of credit allowed for the prenursing requirements. Students planning to transfer are encouraged to contact the School of Nursing as soon as possible for advisement on transfer of credits. An overall GPA of at least 2.5 is required of students desiring to transfer into the School of Nursing from another curriculum on campus.

Registered nurses: The School of Nursing offers an Educational Advancement for Registered Nurses (EARN) Program in which RN students may complete the requirements for the B.S.N. degree in one calendar year (four quarters) of full-time study beginning with summer quarter. A flexible format with full-time and part-time options allows RN students to continue employment. Registered nurse students must complete the pre-nursing curriculum required of all nursing majors. The School of Nursing should be contacted for further advisement.

Professional Program: Admission to the professional program is open annually in fall quarter. Pre-nursing students must formally apply in February to the School of Nursing. Applicants are notified by June 1 of acceptance or non-acceptance. If the number of qualified applicants exceeds the spaces available, a waiting list will be established for fall quarter of that academic year only. Due to limited enrollment, all students who meet minimum criteria may not be admitted.

Criteria for consideration for admission include a minimum GPA of 2.5, completion of the prenursing requirements, references and a completed application. The Admissions Committee considers, in addition to the above criteria, general conduct, health and extra-curricular activities. An interview may be required by the School of Nursing.

Accelerated Nursing Degree Program: The School of Nursing offers an Accelerated Nursing Degree (AND) Program which enables students who hold a bachelor's or higher degree in another field to progress through the professional nursing curriculum in five quarters of full-time study beginning with the summer quarter. Students interested in the AND Program must complete specified pre-nursing courses prior to being considered for admission to the Professional curriculum. An undergraduate grade-point average of 2.5, a personal interview and satisfactory scores on pre-admission examinations are required for admission to the AND Program. The School of Nursing should be contacted for further advisement.

# Academic Regulations

An advisor from the faculty or staff is assigned to each student majoring in nursing. Academic program planning is done with the advisors. Students should consult with their advisors each quarter.

Advanced placement or CLEP credit in pre-nursing courses is granted according to university policies stated elsewhere in the Bulletin. No advanced standing is allowed in the natural sciences by the School of Nursing. Proficiency examinations or Advanced Placement (CEEB), with accepted score, may be used for advanced placement.

An overall grade-point average of 2.0 must be maintained for progression through the professional program. Pre-nursing students who do not attain an overall grade-point average of at least 2.5 at the beginning of the second year should consider alternative fields of study.

A minimum grade of C is required in most pre-nursing courses. Transfer credit will not be granted for courses in which a grade less than C is earned.

In the professional program, a minimum grade of **C** must be achieved in all courses. Because the professional nursing curriculum is designed for progressive development of nursing knowledge and skills, students who earn a grade less than **C** in a professional program course are not allowed to progress to the next course. The course in which the student earns a grade less than **C** may be repeated one time only. Students who earn a grade less than **C** in two or more NUR courses or whose GPA falls below a 2.0 will be dropped from the professional program and must reapply. Transfer credit is not generally allowed for courses in the professional program.

# The Professional Program

Facilities: The School of Nursing is housed in Miller Hall, where classrooms, an auditorium, a skills laboratory, a learning resource and computer center, and faculty offices are located. Facilities for clinical nursing experiences include East Alabama Medical Center and other hospitals in the area, Lee County Mental Health Center, clinics, nursing homes, physicians' offices, Lee County Public Health Department, public schools and industrial sites. Students are responsible for complying with policies and procedures required by agencies in which clinical work is done.

**Expenses:** Students accepted into the professional program should expect to incur additional expenses. Uniforms, equipment, transportation to clinical sites, a health examination and liability and health insurance coverage are among the requirements. Detailed information is furnished by the dean's office at the time of admission.

Accreditation: The School of Nursing operates with full approval of the Alabama Board of Nursing and is accredited by the National League for Nursing.

# School of Pharmacy

R. LEE EVANS, Dean CHARLES M. DARLING, Associate Dean

THE SCHOOL OF PHARMACY offers two professional degrees and two graduate degrees. The professional degrees are a Bachelor of Science in Pharmacy and a Pharm.D. Graduate degrees, a Master of Science and a Doctor of Philosophy, are described in the *Graduate School Bulletin*.

The Bachelor of Science Curriculum is fully accredited and requires three years in the professional school after completion of two years in the pre-professional program. The Doctor of Pharmacy program requires work beyond the baccalaureate program.

The undergraduate degree in pharmacy is a necessary requisite for licensure for the practice of pharmacy in each of the 50 states and also the territories of the United States. Also, completion of the program prepares students for careers in those areas of pharmacy not requiring licensure.

Pharmacists provide personal health services that assure safety and efficacy in the procuring, storing, prescribing, compounding, dispensing, delivering, administering and use of drugs and related articles. Among these services are maintenance of patient medication profiles, monitoring of drug therapy, counseling patients in matters of health and providing health and drug information for nurses, physicians, and other health care practitioners.

Opportunities for graduates exist in community pharmacy, institutional pharmacy, industrial pharmacy (research, product development, analytical control, product manufacture, sales and distribution), wholesale pharmacy, public health, health care funding agencies and regulatory agencies. There are also opportunities in research and teaching in an academic environment.

#### Admission

Course requirements for admission to the School of Pharmacy may be satisfied by completion of the six-quarter pre-pharmacy curriculum outlined in the Pre-Professional Curricula in the College of Sciences and Mathematics. Any or all of these requirements may be met by transfer of credit from other institutions. Transfer students from junior colleges may receive no more than 102 quarter hours credit for the pre-pharmacy curriculum.

Admission is limited and is contingent upon available facilities and faculty. To be considered for admission the applicant must have a satisfactory GPA based on all courses attempted as well as a satisfactory science index (GPA on all mathematics and science courses). A grade of **D** on any required course will not be accepted.

Students are accepted into the School of Pharmacy once a year, during fall quarter. Applications should be submitted not later than February 1. To be considered for admission to the School of Pharmacy, the applicant must forward to the Pharmacy Admissions Committee a completed application, a photograph, two interview report forms, two letters of recommendation and complete transcripts of all work attempted, along with a list of courses in progress and courses planned before admission to the pharmacy curriculum. Applicants must appear for a personal interview with the Pharmacy Admissions Committee upon request. Applicants are notified as to acceptance or denial no later than July 15.

If applicants have not previously attended Auburn University, they must also be accepted by the Admissions Office before their application to the School of Pharmacy can be considered. For university applications write Admissions Office, Auburn University, Alabama, 36849-5145.

Any student in the pharmacy curriculum who is subjected to academic suspension and desires to re-enter the School of Pharmacy must, in addition to complying with the pertinent university regulations, be approved by the Pharmacy Admissions Committee for re-admission.

#### Guidelines to Academic Performance

#### I GENERAL

- A. The implementation of all guidelines will be in addition to those existing policies and standards of the University.
- B. GPAs will be calculated only from professional course work. Professional course work is defined as those required and elective courses listed in the "Curricula in Pharmacy: Bachelor of Science" and any additional courses approved by the faculty.
- C. The student must observe prerequisites and corequisites stated in the current AU Bulletin.

#### IL ACADEMIC STANDARDS

- A. A student must earn passing credit in at least 12 hours of professional course work to receive one quarter of residency credit. The student who earns passing credit in 6-11 hours of professional course work will receive one-half quarter of residency credit.
- B. A student must maintain a minimal GPA cumulative record of 2:0 on all professional course work. A student whose cumulative GPA falls below 2.0 will be placed on academic probation.
  - 1. The student will remain on probation for the next three quarters of enrollment.
  - By the end of the probationary period, the student must have earned a 2.0 cumulative GPA or the student's name will be removed from the rolls of the School of Pharmacy.
  - During the probationary period, the student may take any professional course work for which the prerequisites have been met. Exception: clerkship and externship courses may not be taken by a student whose School of Pharmacy cumulative GPA is less than 2.0.
  - 4. A student may not be placed on probation more than once. Instead of a second probation, the student's name will be removed from the rolls of the School of Pharmacy.
  - A cumulative record of 2.0 in professional course work is required for graduation in the School of Pharmacy.
- C. All F graded professional course work must be successfully repeated as soon as the course is offered again.
- D. A course in which a student received a grade of B or A may not be repeated under any conditions.
- E. A course in which a student received a grade of C may be repeated only if all courses in which an F or D had been earned have been successfully repeated with a C or above.
- F. No required course in the professional curriculum may be repeated more than twice.

Appeals to these Guidelines may be made to the Professional and Academic Standards Committee through its chairperson.

# Licensure Requirements

The Alabama State Board of Pharmacy (BOARD) regulates the practice of pharmacy in the state. In brief, the requirements for licensure are:

- 1. B.S. in Pharmacy or Pharm.D. degree from an accredited School of Pharmacy.
- A total of 1,500 hours of practical experience under the supervision of a registered preceptor, 400 hours of which must be completed after graduation.
- 3. Students are eligible to and should file an application with the BOARD for registration as an extern/intern at the time they enroll in the School of Pharmacy. Periods of any work experience must be reported to the Secretary of the Board within 10 days of beginning and within 10 days after ending the experience or at intervals of 16 weeks, whichever first occurs.
- Graduates of accredited schools of pharmacy are eligible to take the BOARD examination.
   Applications for taking the BOARD examination may be obtained from the dean's office.
- The Office of the Dean of the School of Pharmacy will be glad to respond to questions on licensure. Alternatively, request for information can be referred directly to: Mr. Jerry Moore, Secretary, Alabama State Board of Pharmacy, One Perimeter Park South, Suite 425 So., Birmingham, Ala. 35243.

# Continuing Education and Extension Services

Continuing education and extension service programs are available to pharmacists throughout the year. Faculty members of the School of Pharmacy, as well as practicing pharmacists and industry leaders and consultants in state and federal governmental agencies serve as instructors.

The Alabama Board of Pharmacy requires 15 clock hours of approved continuing education as a requirement for renewal of each pharmacist's controlled substances permit.

# Curricula In Pharmacy

#### Bachelor of Science

		F	RST PROFESSIONAL YEAR		
	First Quarter		Second Quarter		Third Quarter
ZY	560 Mammalian Phys. I 5	ZY	561 Mammalian Phys. II 5	PC:	347 Human Pathology 5
CH	518 Blochemistry4	CH	519 Blochemistry 4	PY	419 Ess. Drug. Ad
PCS	484 Junsprudence	PY	301 Pharmaceutics I 4	PY	302 Pharmaceutics II
PCS	362 In. Med. Info. Syst 3	PY	316 Mod. Mths.Drug. An 4	EH	400 Adv. Composition 5
PCS	351 Pharmaceutical Care 4		- AND THE PROPERTY OF THE PARTY		***************************************
		SE	COND PROFESSIONAL YEAR		
	Fourth Quarter		Fifth Quarter		Sixth Quarter
PY	420 Med. Chem. I 4	PY	421 Med. Chem. II	PY	422 Med. Chem. III
PY	531 Pharmacology I 4	PY	532 Pharmacology II 4	PY	533 Pharmacology III 4
PY	401 Pharmaceutics III 4	PC	447 Therapeutics II	PC	448 Therapeutics III
PC	446 Therapeutics I	PCS	469 Drug. Lit. Rtvi. & An 4	PY	403 Pharmaceutics (V 4
	115-119119-10-10-10-10-10-10-10-10-10-10-10-10-10-		Prof. Elective3	PCS	471 Prof. Comm. 1
		T	HIRD PROFESSIONAL YEAR		
	Fall or Winter Quarter		SU/FA or WI/SP		SU/FA or WVSP
	Prof. Electives 14	PC	458 Inst. Extnshp 8	PC	460 Clerkship 8
PCS	465 Phar. Oper. Syst 4	PC	459 Comm. Extnahp 8	PC	461 Clerkship Elect
		TOTAL	- 159 QUARTER HOURS (B.S.)		

#### NOTES:

1. Proficiency in typing is required of all entering students.

Students are encouraged to participate in field trips to a pharmaceutical manufacturing plant during their junior or senior year, and to a wholesale drug company during their senior year.

 A set of Class C, metric and Apothecaries' weights, which may be purchased from ASP, is required for Pharmacy laboratories.

 Students enrolled in clerkship or externship courses are required to furnish personal professional liability insurance and CPR recertification.

 All pharmacy elective courses are acceptable for option credit. Faculty advisors will provide information on any non-pharmacy elective courses which are acceptable.

 A student who is qualified and has the prerequisites may take up to 10 hours of graduate course work in the fifth year; however, such work cannot be applied toward both the undergraduate and graduate degrees.

# Doctor of Pharmacy

Baccalaureate graduates of accredited schools/colleges of pharmacy are eligible for admission to the program. Individuals interested in applying to the program should submit an application to the Doctor of Pharmacy Program Admissions Committee prior to February 1 preceding the fall quarter in which admission is desired. The program is designed to interface with the baccalaureate curriculum, but at this time the program is in addition to the baccalaureate program and of limited enrollment.

The Doctor of Pharmacy curriculum consists of a didactic and a clerkship phase. The didactic phase is a sequence of courses taught in the classroom setting on the Auburn University campus. The clerkship phase is experiential learning taught at affiliated clinical sites

in the region.

#### **Doctor of Pharmacy Curriculum**

First Quarter			Second Quarter	Third Quarter		
PC	530 Adv. Pat. Monit. I	PC	503 Research Methods 3	PC	520 Drug Induced Disease 3	
DMS			521 Appl. P'cokinetics 4	PC	512 Adv. Therapeu. III 6	
PC			511 Adv. Therapeutics II 6	PC	532 Adv. Patient Mon. III 1	
PY			504 Drug Info. Ret. & An. I 2	PCS	531 Clin. Phar. Adm 2	
			531 Adv. Pat. Monit. II	PC	505 Drug Info. Ret. & An. II 2	

#### SPRING/SUMMER/FALL/WINTER QUARTERS

PC 542 Clinical Seminar/Psychosocial Issues	2
PC 550 Clerkship — Drug Information	9
PC 551 Clerkship — Clinical Pharmacokinetics	9
PC 553 Clerkship — Ambulatory Care	9
PC 554 Clerkship — General Internal Medicine	9
Faux Flastics Clarkebles (flux unaks each)	IA!

TOTAL - 123 QUARTER HOURS (PHARM.D.)

# College of Sciences and Mathematics

STEWART W. SCHNELLER, Dean

LAWRENCE C. WIT, Associate Dean for Academic Affairs

JOHN D. WEETE, Associate Dean for Research

WILLIAM J. DORGAN, Assistant Dean for Pre-Health Professions

THE COLLEGE OF SCIENCES AND MATHEMATICS provides programs in the physical sciences, life sciences and mathematics at the undergraduate and graduate levels. The College also offers scientific and mathematical service courses for students enrolled in most of the other colleges and schools. The College includes the following academic areas: Biochemistry, Botany, Chemistry, Geology, Mathematics, Microbiology, Physics, Wildlife Science and Zoology. The Arboretum, Nuclear Science Center, and Plant Molecular Genetics Laboratory are also included in the College of Sciences and Mathematics.

## Undergraduate Degrees

1. Four-year bachelor's degree programs are offered in two areas:

a. Departmental curricula are available in botany, chemistry, biochemistry, geology, earth science, laboratory and medical technology, microbiology, molecular biology, marine biology, mathematics, applied mathematics, applied discrete mathematics, physics, wildlife science and zoology.

 b. Pre-professional curricula are offered in pre-dentistry, pre-medicine, pre-optometry, prephysical therapy, pre-occupational therapy, pre-pharmacy and pre-veterinary medicine.

Embodied in these curricula are the requirements of the University Core Curriculum.

2. Admission — The academic requirements and demands on majors in sciences and mathematics necessitate a high school preparation of high intellectual quality. The following is recommended as a minimum preparation: English, four units; mathematics (including algebra, geometry, trigonometry and analytical geometry), four units; chemistry, one unit; biology, one unit; history, literature, social science, two or three units. Both physics and foreign language are highly recommended.

Transfers from other institutions must apply through the Admissions Office. The College of Sciences and Mathematics allows credit for courses completed with grades of **C** or better provided the courses contain equivalent content to Aubum courses or can be logically substituted for Aubum courses. Junior college credit is disallowed for courses taught at Aubum at the 300-level or higher.

Many COSAM curricula require students begin with MH 161. Students not prepared for MH 161 must first take MH 160. See advisor for details.

Transfers from on-campus may declare a major in the College of Sciences and Mathematics if they: (1) have a cumulative Auburn GPA of at least 2.0 (on all work attempted) and (2) have completed at least 10 hours of Auburn University course work in the desired major with at least a 2.0 GPA in all such courses. Courses in the major are those carrying the appropriate prefix(es) of the intended curriculum. Students not meeting these standards may enroll in the General Sciences and Mathematics (GSM) curriculum if they have not reached senior standing (144 hours). Students in the GSM curriculum may declare a Sciences and Mathematics major after satisfying the above requirements. A student who enters the GSM curriculum because he or she is not qualified to declare a major can remain in GSM for a maximum of four quarters or until senior standing is reached. If after this the student is still not qualified to declare a major, he or she will be disenrolled from the College of Sciences and Mathematics.

Academic Residency Requirements — Newly enrolled students in the College of Sciences and Mathematics will be issued an academic warning at the end of any quarter in which: (1) the cumulative GPA drops below 2.0, or (2) the GPA in the major, excluding 100-level courses, is less than 2.0. Any student issued an academic warning, except a freshman with fewer than three quarters in residence, will be transferred to the GSM curriculum at the end of any quarter in which the grade-point deficiency in the major exceeds 13 (see section on "Undergraduate Continuation in Residence Requirements" in this *Bulletin* for an explanation on how to compute grade-point deficiency). Students who are removed from a major must bring the GPA in the major (excluding 100-level courses) up to 2.0 within four quarters, or they will be disenrolled from the College of Sciences and Mathematics. If a student is a senior at the time he or she is removed from a major, or if a student becomes a senior while designated GSM, he or she is likewise disenrolled. A student cannot graduate while enrolled in the GSM curriculum.

### Graduate Degrees

Master of Science and Doctor of Philosophy degrees are offered in the College of Sciences and Mathematics. Degree programs are described in the Graduate School Bulletin.

# Dual Degree Program in Engineering

This program provides for enrollment in a curriculum of the College of Sciences and Mathematics for approximately three academic years and in the College of Engineering for approximately two academic years.

The student must complete the basic requirements of the University Core Curriculum and the requirements for a major within a department in the College of Sciences and Mathematics. The student is not required to take the usual number of hours of electives. Thus, he/she may transfer to the College of Engineering after the end of the junior year. Following completion of the academic requirements for one of the 11 baccalaureate degrees in the College of Engineering, two degrees will be awarded: a Bachelor of Science degree in the Sciences and Mathematics major, and a bachelor's degree in the designated engineering field.

### Curriculum in Materials Engineering

An interdisciplinary curriculum in materials engineering is administered by the Department of Mechanical Engineering in the College of Engineering. It is conducted cooperatively by academic departments of the College of Engineering and the College of Sciences and Mathematics through a faculty Materials Engineering Curriculum Committee.

# Curriculum in Geological Engineering

An interdisciplinary curriculum in geological engineering is administered by the Department of Civil Engineering in the College of Engineering. It is conducted cooperatively by the Department of Civil Engineering and the Department of Geology in the College of Sciences and Mathematics.

### Teacher Education

Students with majors in mathematics or the sciences who wish also to prepare for certification as teachers in secondary schools may pursue the dual objective of completing the requirements for the B.S. degree in their major and the requirements of the Teacher Education Program.

Students who choose the dual objective program should declare this intent to their departmental advisors by the end of their sophomore year. Students pursuing the dual objective plan will be assigned an advisor in the College of Education who will advise them on matters involving requirements for completing the Teacher Education Program. See detailed discussion of admission and retention procedures for teacher education elsewhere in this Bulletin.

# Cooperative Education Programs

Cooperative Education Programs give students an opportunity to integrate their academic training with relevant work experience. Students alternate between school and a work assignment provided through the Director of the Cooperative Education Program.

# Advisory Services for Students

Before a major is declared, the dean's office provides counseling services to the student. After a major is declared, the head of the department (or their designee) in which the student majors becomes the student's advisor and is charged with providing academic counsel for the student.

# The University Honors Program

This program offers individual learning opportunities, the possibility of accelerated entry into a master's program, and participation in honors courses to entering freshmen with extraordinarily high academic aptitude.

# The General Sciences and Mathematics Curriculum (GSM)

This curriculum is primarily for freshmen who have not decided on a specific major field of study and for transfer students having deficiencies which preclude their acceptance in a degree program. Freshmen entering this curriculum must declare a major by the end of their fourth quarter. Transfer students must complete a specific approved program to clear their admission to a major field of study.

# The General Curriculum (GSM)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
	Foreign Language*	Foreign Language
	MH 162 An Geom. & Calc	MH 163 An Geom. & Calc

Students with a strong background in foreign language are encouraged to complete a year of language in the freshman year.

Science requirement must be satisfied by taking courses from the following sequences: Bi 101-102-103; CH 103-104-105 or CH 111-112-113 and labs; GL 110-111 and 240; or PS 205-208-207 or PS 220-221-222 and labs.

### Departmental Curricula

Departmental curricula leading to the Bachelor of Science degree include botany, chemistry, biochemistry, geology, earth science, microbiology, molecular biology, marine biology, laboratory and medical technology, mathematics, applied mathematics, applied discrete mathematics, physics, wildlife science and zoology.

# Botany

The Botany major is for students interested in fundamental plant sciences. The required courses serve as a basis of knowledge of plants and future experimentation with plant systems. Proper elective selection prepares students for various careers in the plant sciences.

# Curriculum in Botany (BY)

			FRESHMAN YEAR				
	First Quarter		Second Quarter		Third Quarter		
BI	101 Prin. of Biology	BI	102 Plant Biology	BI	103 Animal Biology 5 104 Fund. Chem 4		
EH	110 English Comp 5	CH	103 Fund. Chem.,	CH	104 Fund. Chem. Lab 1		
U	101 Soc. & Cult	CH	103 Fund. Chem. Lab 1	MH	Elect. or DMS 2155		
	necessore extension to the planting	U	102 Polit. Econ	U	103 Indiv. & Soc 3		
			SOPHOMORE YEAR				
CH	207 Org. Chem 4	CH	208 Org. Chem	ZY	300 Genetics5		
CH	207 Org. Chem. Lab 1	CH	208 Org. Chem. Lab	Core	Fine Arts (p. 39)3		
Core	History (p. 39)	Core History (p. 39) 3			Core History (p. 39)		
Fore	ign Language 5 220 Great Books I 5	Fore	gn Language	PA	102 Intro. to Ethics		
			JUNIOR YEAR				
BY	306 Fund. Plant Phys 5	BY	405 Intr. Mol. Gen4	BY	506 or 5135		
EH	Adv. Comp. (p. 39) 5	PS	205 Intro. Physics 4	PS	206 Intro. Physics4		
Elect	lives 6	PS	205 Phys. Lab1	PS	206 Phys. Lab 1		
		Elect	ives6	Elec	tives,6		
			SENIOR YEAR				
BY	Spec. Prob. " 3	BY	Spec. Prob. *3	Elec	tives15		
BY	Elective	BY	Elective 5		***************************************		
Elect	lives 8	Elect	ives8				
		TO	TAL 200 OLIAPTED HOURS				

TOTAL - 200 QUARTER HOURS

Special Problems requirements are arranged in consultation with an advisor. In consultation with an advisor, 10 hours of BY electives and 20 hours of additional electives will be scheduled. These electives preterably should be selected from one of the following two lists depending upon area of interest or concentration. Basic and advanced ROTC up to a total of 12 quarter hours may be scheduled from remaining free electives. List A: BY 460, 470, 505, 506, 507, 509, 510, 513, 514, 515, 517, 518; GL 205; PLP 309; ZY 241, 303, 306, 436, 516, 517. List B: BY 460, 470, 514, 515, 550; CH 518, 518L, 519, 519L, 521; MB 300, 522, 522L, 540, 542, 543, 543L, 545; ZY 310, 519.

### Chemistry

This American Chemical Society accredited curriculum prepares students for careers in both pure and applied chemistry with a dual emphasis on classroom and laboratory experience. A flexible senior year allows students to tailor the program to their individual professional goals. Graduates will be prepared to enter the profession immediately or continue for advanced degree programs. The senior research program introduces students to modern advanced techniques and approaches to chemical research in an area of their interests by completing an individual research project in conjunction with a faculty advisor.

# Curriculum in Chemistry (CH)

			FRESHMAN YEAR		Third Quarter
	First Quarter		Second Quarter	3.0	
CH	111 General Chem 4	CH	112 General Chem4	CH	113 General Chem 4
CH	111LGen. Chem. Lab 1	CH	112LGen. Chem. Lab	CH	113LGen. Chem. Lab
MH	161 An. Geom. & Cal 5	MH	162 An. Geom. & Cal	MH	163 An. Geom & Cal
EH	110 Eng. Comp 5	Core	History (p. 39)		History (p. 39)
	C or Elective 1	ROT	C or Elective	ROT	C or Elective 1
			SOPHOMORE YEAR		
CH	207 Organic Chemistry 4	CH	208 Organic Chemistry 3	CH	209 Org. Chemistry 4
CH	207LOrganic Chem. Lab 1	CH	208LOrganic Chem. Lab 2	CH	209LOrg. Chem. Lab
MH	264 An. Geom. & Cal 5	MH	265 Lin. Diff. Equations 3	MH	266 Top. Lin Algebra
PS	220 Gen. Physics I	PS	221 Gen. Physics II	PS	222 Gen. Physics III
PS	220LGen. Physics Lab 1	PS	221LGen. Physics Lab1	PS	222LGen. Physics Lab1
	History (p. 39)	EH	220 Great Books I 5	EH	221 Great Books II 5
	C or Elective	200	G or Elective1	ROT	C or Elective1
7.00			JUNIOR YEAR		
CH	507 Physical Chemistry 4	CH	508 Physical Chemistry 4	CH	509 Physical Chemistry 4
CH	507L Physical Chem. Lab 1	CH	508LPhysical Chem. Lab 1	CH	509LPhys. Chem. Lab
FL	Foreign Language * 5	FL	Foreign Language	FL	Foreign Language
EH	400 or 404 5	CH	305 Anal. Chem	CH	513 Anal. Chemistry 5
		CH	305LAnal. Chem. Lab	PS	320 Modern Physics 4
			SENIOR YEAR		
CH	510 Int. Inorg. Chem 5	CH	511 Int. Inorg. Chem. II	U	103 Indiv. in Soc
CH	504 or 518+L 5	CH	512 or 518+L or 519+L 5	Elec	tive6
CH	490 Spec. Prob. Chem 5	U	102 Polit Econ3	Cor	e Philosophy (p. 39)
n	101 Soc. & Cult 3		Fine Arts (p. 39)3		mater

TOTAL — 198 QUARTER HOURS
German, French, Japanese, or Russian through the first year sequence.

# Curriculum in Biochemistry (BCH)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
CH 111 General Chem 4	CH 112 General Chem4	CH 113 General Chem 4
CH 111LGen. Chem. Lab 1	CH 112LGen, Chem. Lab 1	CH 113LGen Chem. Lab
MH 161 An. Geom. & Cal." 5	MH 162 An. Geom. & Cal	MH 163 An. Geom. & Cal
EH 110 Eng. Comp 5	Core History (p. 39)	BI 101 Prin, Biol,
ROTC or Elective	Core Fine Arts (p. 39)	ROTC of Elective
high of Economic manufactures and the second	ROTC or Elective 1	December 100 Decem
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	SOPHOMORE YEAR	
CH 207 Organic Chemistry 4	CH 208 Organic Chemistry 3	CH 209 Org. Chemistry4
CH 207LOrganic Chem. Lab 1	CH 208LOrganic Chem. Lab 2	CH 209LOrg. Chem. Lab
MH 264 An. Geom. & Cal	MH 265 Lin. Diff. Equations 3	Core History (p. 39)3
PS 220 Gen. Physics I	PS 221 Gen. Physics II	PS 222 Gen. Physics III
PS 220LGen. Physics Lab 1	PS 221LGen. Physics Lab 1	PS 222LGen. Physics Lab 1
Core History (p. 39) 3	EH 220 Great Books I	EH 221 Great Books II
ROTC or Elective 1	ROTC or Elective 1	ROTC or Elective1
	JUNIOR YEAR	
CH 507 Physical Chemistry 4	CH 508 Physical Chemistry 4	CH 509 Physical Chemistry 4
CH 507LPhysical Chem. Lab 1	CH 508LPhysical Chem. Lab 1	CH 509LPhys. Chem. Lab1
U 101 Soc. & Cult 3	ZY 310 Cell Biology4	BY 300 Microbiology5
EH 400 or 404 5	CH 305 Anal. Chem3	ZY 524 An. Physiology5
Elective	CH 305LAnal. Chem. Lab	U 103 Indiv. in Soc3
***************************************	U 102 Polif. Econ3	11-120-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
	SENIOR YEAR	
CH 518 Biochemistry 4	CH 511 Int. Inorg. Chem. II 5	CH 521 Biochemistry4
CH 518L Biochemistry Lab 1	CH 519 Biochemistry	CH 513 An. Chemistry 5
CH 510 Int. Inorg. Chem 5	CH 519L Biochemistry Lab 1	Elective6
CH 490 Spec. Prob. Chem 5	Core Philosophy (p. 39) 5	Lesson autoromono de la company de la compan
and the second s	TOTAL — 200 QUARTER HOURS	

### Geology

This curriculum prepares the student broadly in geology for an intelligent selection of employment or of a graduate program of study that permits specialization in one or more of the aspects of the science. Geological employment ranges from federal and state service through university/college and industrial programs to private consulting. The following four-year program satisfies requirements for a Bachelor of Science degree

# Curriculum in Geology (GL)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
BI	101 Prin. of Biology	BI.	102 Plant Biology5	BI	103 Animal Biology5
GL	110 Physical Geology	GL	111 Hist. Geology 5	MH	161 An. Geom. & Cal
EH	110 English Comp 5	PA	102 Intr. Ethics5	HY	103 or 123 (p. 39)
HY	101 or 121 (p. 39) 3	HY	102 or 122 (p. 39)3	Elect	ive
			SOPHOMORE YEAR		
EH	220 Great Books I 5	GL	206 Inv. Paleozoology5	GL	240 Struct. Geology
MH	162 An. Geom. & Cal	MH	163 An. Geom. & Cal	EH	221 Great Books II
CH	103 Fund. Chem. " 4	CH	104 Fund. Chem	CH	105 Fund. Chem 4
CH	103LGen. Chem. Lab 1	CH	104LGen. Chem. Lab	CH	105LGen. Chem. Lab 1
	hand the state of	Electi	ve	Elect	ive3
	During the Summer Quarter follow	ving the	sophomore year, the student should	ld take	GL 215 (6) and GL 231 (2).
			JUNIOR YEAR		
Elect	ive	GL	302 Optical Min5	GL	305 Ign. & Met. Pet 5
GL.	301 Mineralogy5	PS	206 Intr. Phys. II4	EH	400 Adv. Comp. (p. 39) 5
PS:	205 Intr. Physics I 4	PS	206 Intr. Phys. Lab	PS	207 Intr. Phys. III
PS	205 Intr. Phys. Lab	GL	Geology Elective	PS	207 Intr. Phys. Lab 1
U	101 Soc. & Cult	U	102 Polit Econ3	U	103 Indiv. in Soc 3
			SENIOR YEAR		
GL	401 Sed. Pet 5	GL	411 Stratigraphy5	GL	Geology Elective5
GL	Geology Elective 5	GL	Geology Elective5		. Elective
Elect		Tech.	Elective 5	Core	Fine Arts (p. 39)

TOTAL - 203 QUARTER HOURS

#### Earth Science

This curriculum prepares the student for employment with environmental, geological, and/ or engineering consulting firms, federal or state agencies or support companies in the petroleum industry. It is also an excellent option for those wishing to combine majors (with business, civil engineering, education or law, for example) for broader employment potential or graduate studies. The following four-year program satisfies the requirements for a Bachelor of Science degree.

### Curriculum in Earth Science (GES)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
BI	101 Prin. of Biology 5	BI	102 Plant Biology5	BI	103 Animal Biology
GL	110 Physical Geology 5	GL	111 Hist, Geology 5	MH	161 An. Geom. & Cal
EH	110 English Comp 5	PA	101 Logic 5	HY	103 or 123 (p. 39)
HY	101 or 121 (p. 39) 3	HY	102 or 122 (p. 39)3	Elec	tive3
			SOPHOMORE YEAR		
EH	220 Great Books I 5	EH	221 Great Books II	GL	240 Struct. Geology
DMS	215 Intr. Bio. Stat 5	GL	Geology Elective5	GY	240 Cartography5
CH	103 Fund. Chem. * 4	CH	104 Fund. Chem 4	CH	105 Fund. Chem 4
CH	103LGen. Chem. Lab 1	CH	104LGen. Chem. Lab	CH	105LGen. Chem. Lab1
Electi	ve	U	101 Soc. & Cult	U	102 Polit Econ
	During the Summer Quarter follow	ving the	a sophomore year, the student shoul	d take	GL 215 (6) and GL 231 (2).
			JUNIOR YEAR		
FL	Foreign Lang 5	FL	Foreign Lang	EH	400 Adv. Comp. (p. 39) 5
GL	301 Mineralogy 5	GL	Geology Elective5	FL	Foreign Lang5
U	103 Indiv. in Soc	PS	205 Int. Phys. I	PS	206 Int. Phys. II4
Comp	outer Science	PS	205 Physics Lab1	PS	206 Physics Lab1
		Core	Fine Arts (n. 39)		

Chemistry may be started with CH 101. See advisor for details. GEOLOGY ELECTIVES AND TECHNICAL ELECTIVES: See advisor for details.

### College of Sciences and Mathematics

#### SENIOR YEAR

GL	Geol. Elective 5	Technical Elecitye (see advisor) 5	GL Geol. Elective
PS	207 Int. Phys.III	Technical Elecitve (see advisor) 5	Technical Elecitve (see advisor) 5
PS	207 Physics Lab 1	Elective	Elective
	ive 4		

#### **GEOLOGY ELECTIVES (20 HOURS)**

A minimum of one course from each group. GROUP 1: GL 205, 206. GROUP 2: GL 302, 305, 421. GROUP 3: GL 401, 411.

TOTAL — 204 QUARTER HOURS

Chemistry may be started with CH 101. See advisor for details.

# Geological Engineering

The curriculum in geological engineering is an interdisciplinary curriculum offered cooperatively by the departments of Civil Engineering (College of Engineering) and Geology (College of Sciences and Mathematics). The curriculum is administered by the College of Engineering and monitored by a faculty Geological Engineering Curriculum Committee.

The program consists of 203 quarter hours of courses representing 12 academic quarters and one summer quarter when students are required to take Geological Field Methods (offered summers only), a part of the engineering design requirement for ABET accreditation. The curriculum consists of the general freshman requirements of the College of Engineering, rigorous mathematics and chemistry (through organic chemistry, CH 201) and a complement of basic engineering and geology courses.

The objective of the program is to produce graduates prepared to pass the Fundamentals of Engineering (FE) test, and ultimately, the test(s) for registration as a professional engineer and/or professional geologist. Students will also be well prepared for advanced degree programs in engineering or geology. The curriculum emphasizes the physics, chemistry, hydrology and geology of the near-surface portions of the crust, which are the major portions involved with geotechnical, water supply, ground water contamination and waste disposal problems. Subjects related to mining and mineral engineering are not emphasized.

See Curriculum in Geological Engineering (GE) in College of Engineering.

# Laboratory Technology and Medical Technology

This curriculum, leading to the degree of Bachelor of Science in Laboratory Technology or Bachelor of Science in Medical Technology, prepares students for medical laboratory careers in fields such as public health, bacteriology, environmental testing, industrial quality control, research and forensic science. Graduates may choose to quality as certified medical technologists. This is accomplished by successfully completing a 12-month training period (rotating hospital internship) in an accredited School of Medical Technology and passing a national certifying examination.

The requirement for the degree of Bachelor of Science in Laboratory Technology is the successful completion of the 12 quarters of the laboratory technology curriculum. Upon graduation a student may enter the work force in a laboratory field or may choose to begin a 12-month training period in a School of Medical Technology. Upon completion of the training and successful completion of a national certifying examination, the graduate will be certified as a medical technologist.

The Medical Technology option leads to the Bachelor of Science degree in Medical Technology (conferred by Auburn University). Degree requirements include successful completion of the first nine quarters of the laboratory technology curriculum and of the 12-month period in a School of Medical Technology approved by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) and by the head of the Department of Chemistry at Auburn University. This school must be affiliated with Auburn University. Graduates of this curriculum should plan to become certified medical technologists by passing one of the national certifying examinations administered by an approved certifying body.

Further requirements for the Medical Technology Option include: (1) Auburn University students transferring into medical technology must complete one academic year (54 hours) in the laboratory technology curriculum preceeding the year of internship, and (2) transfers from other institutions must complete the junior year of the laboratory technology curriculum at Auburn prior to internship.

at Aubum prior to internship.

# Curriculum in Laboratory Technology (LT)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
CH	103 Fund. Chem 4	CH	104 Fund. Chem	CH	105 Fund. Chem
CH	103L Lab 1	CH	104L Lab 1	CH	105L Lab1
EH	110 English Comp 5	MH	161 An. Geom. & Cal	PA	218 Ethics & Htth, Sci
	History (p. 39)		History (p. 39)	Core	History (p. 39)3
LT	101 Orientation 1	BI	101 Prin. Biology5	PS	200 Fnd. of Physics
BOTO	or Elective		or Elective1	ROT	G or Elective 1
11015	of License		SOPHOMORE YEAR		
CH	207 Org. Chem 4	CH	208 Org. Chem	Core	Fine Arts (p. 39)3
CH	207L Lab 1	CH	208L Lab	MB	300 Microbiology5
EH	220 Great Books I 5	0	101 Soc. & Cult	ZY	300 Genetics
ZY	250 Human Anatomy 5	EH	221 Great Books II5	ZY	251 Physiology 5
-	outer Elective *3	ROTO	C or Elective 1	ROT	C or Elective1
	or Elective 1				инициональным положение.
			JUNIOR YEAR		
LT	301 Hematology I 5	LT	401 Adv. Hematology 5	LT	405 Immunohem 5
MB	446 Clin. Microb 5	MB	543 Immunology4	EH	400, 404 or 4085
U	102 Polit Econ 3	MB	543L Immuno. Lab	U	103 Indiv. in Soc 3
CH	305 Anal. Chem	ZY	411 Parasitology5	DMS	\$ 215 or PG 3045
CH	305L Lab	100	Teleplesky (February )		101101001000010110110110110110110110110
-	0000 300		SENIOR YEAR		
LT	525 Clin. Instr 5	CH	519 Biochem4	CH	520 Clin. Biochem 5
CH	518 Biochem4	MB	405 Intro. Molec. Genetics 4	MB	522 Gene E&R DNA 3
Tech	Secretary and the secretary an	200	Elective	MB	522L Lab2
recn	Elective	, doi:	100.0000 man and man a		a. Elective5

### TOTAL - 200 QUARTER HOURS

Computer Elective: CSE 100, 120, AEC 210, EM 370, U 135 or others approved by advisor. Technical Electives: BY 505, 514; CH 521; LT 522; MB 542, 558; NFS 318, 502; PS 206, 207; PY 316, 535, ZY 303, 306. 310, 440, 441, 509, 520, 524, 560, 561 and up to six hours advanced ROTC.

# Curriculum in Medical Technology (MDT)

Curric	ulum	in Medical Technology	A (INII	01)
		FRESHMAN YEAR		
First Quarter		Second Quarter		Third Quarter
CH 103 Fund. Chem	CH MH	104 Fund, Chem	CH CH PA	105 Fund, Chem
Core History (p. 39)	BI	History (p. 39)	PS	History (p. 39)
Core Fine Arts (p. 39) 3		SOPHOMORE YEAR		
CH 305 Anal Chem. 3 CH 305L Lab 2 EH 220 Great Books I 5 ZY 250 Human Analomy 5 U 101 Soc. & Cult. 3 ROTC or Elective 1	GH GH ZY ZY U BOT	207 Org. Chem	CH CH MB U EH ROT	208 Org. Chem.     3       208L Lab     2       300 Microbiology     5       103 Indiv. in Society     3       221 Great Books II     5       To or Elective     1
		JUNIOR YEAR		
CH         518 Blochemistry         4           LT         301 Hematology I         5           MB         446 Clin. Micro.         5           Computer Elective *         3		519 Biochemistry	CH LT DMS EH	520 Clin. Biochem
MEDICAL TECHNOLOGY OPTION School of Medical Technology.	- (PROF	ESSIONAL YEAR) - A 12-month trai	ning pr	rogram undertaken at an accredited
	0.00	SENIOR YEAR	LUDY	T ANT The colors
MDT 406 CI. Hernatology		402 Cl. Microbiol		T 425 Chemistry 8 T 401 Urinalysis 1

			SENIOR YEAR		
MDT	406 CI. Hematology 6	MDT	402 Cl. Microbiol	MDT	425 Chemistry 8
MDT	408 Immunohem 5	MDT	405 Cl. Parasitology2	MDT	401 Urinalysis1
		MDT	407 Cl. Serology2		5.000000000000000000000000000000000000

TOTAL - 200 QUARTER HOURS

Computer Elective: CSE 100, 120, AEC 210 or EM 370, U 135 or others approved by advisor,

#### Mathematics

This curriculum prepares students for graduate study and eventual careers as mathematicians. To graduate with a major in mathematics, a student must have an overall **C** average or better in all mathematics courses attempted above the 100-level, for which a grade other than **W** has been assigned.

### Curriculum in Mathematics (MH)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH U EH	151 An. Geom. & Calc	MH: U	162 An, Geom. & Calc	MH	163 An. Geom. & Calc
MH	284 An. Geom. & Calc	MH	337 Intr. Lin. Alg	MH	269 Elem. Dif. Eq.     5       333 Group Theory     3       Natural Science     4-5       Core Fine Arts (p. 39)     3
FL MH MH EH	Foreign Lang. ** 5 520 Analysis 5 334 Intr. Th. Rings 3 Adv. Comp. (p. 39) 5	FL MH MH	JUNIOR YEAR Foreign Lang. ** 5 521 Analysis II 5 533 Elem. Fld. theory 3 Elective 3	FL MH MH MH	Foreign Lang
	Requisite *** 3-5 550 Intr. Topology 5 ive (see advisor) 5	МН	SENIOR YEAR           Requisite ***         5           Elective (see advisor)         5           Elective (see advisor)         5	МН	Requisite ***
Elect	ive (see advisor) 3		and an interest of the state of		THEORETTO CONTROL OF THE PARTY

TOTAL - 196 QUARTER HOURS

*** MH Requisite: mathematics courses numbered 300 or above subject to approval of advisor.

# **Applied Mathematics**

This is a curriculum suitable for those preparing for graduate work in mathematics as well as for those anticipating careers supported by significant applied mathematics.

An important feature is the option for the student to concentrate, by means of technical electives, on an area to which mathematics can be applied: one of the traditionally allied fields, such as engineering, physical science or computer science; or the more recently allied areas such as the biological, behaviorial or managerial sciences. Students using this curriculum in preparing for graduate study in mathematics should be aware of the foreign language requirements for advanced degrees. In order to graduate with a major in mathematics, a student must have an overall C average or better in all mathematics courses attempted above the 100-level, for which a grade other than W has been assigned.

Students who desire more flexibility or emphasis on the liberal arts should pursue the MH curriculum.

## Curriculum in Applied Mathematics (AMH)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
MH	161 An, Geom. Cal.*	MH	162 An. Geom. Cal5	MH	163 An. Geom. Cal5
EH	110 English Comp 5	Core	Fine Arts (p. 39)	Core	Philosophy (p. 39) 5
HY	101 or 121 (p. 39)	HY	102 or 122 (p. 39)3	HY	103 or 123 (p. 39)
Scien	ice * 5	Scien	100 "	PS	220 General Physics I 3
	CONTROL OF THE CONTRO	Elect	ive 3	PS	220LGen. Phys. Lab
			SOPHOMORE YEAR		
MH	264 An. Geom. Cal 5	MH	269 Elem. Diff. Eqns 5	MH	337 Intr. Linear Alg5
MH	271 Intr. Math Program 3	PS	222 General Physics III3	U	101 Soc. & Cult
PS	221 General Physics II 3	PS	222L Gen. Phys. Lab III 1	Grou	up Requisite3
PS	221LGen: Physics Lab II1	EH	221 Great Books II	Grou	up Requisite5
EH	220 Great Books I 5	Grou	p Requisite 3	Elec	tive
			JUNIOR YEAR		
MH	520 Analysis I 5	MH	521 Analysis II5	MH	522 Analysis III 5
MH	567 Probability Thy 3	MH	568 Math. Statistics I	MH	569 Math. Statistics II
MH	333 Elem. Grp. Theory 3	MH	334 Elem. Ring Theory	MH	533 Ring & Fld. Theory 3
U	102 Polit Econ 3	U	103 Indiv. in Soc	EH	Eng. Comp. (p. 39)5
Grou	p Requisite 3				-1117-17-17-17-17-17-17-17-17-17-17-17

The natural science requirement may be met by taking PS 220-221-222 or GH 111-112-113, plus labs. If the 12-hour physics sequence is selected, an additional 3-hour elective will be needed to meet the 196-hour requirement.
 Required is one year of one language to be chosen from French, German or Russian.

#### College of Sciences and Mathematics

- 25	EΝ	IЮ	н.	YE.	AH.

MH 563 intro Numer. An. 1	e.	MH 564 Intro. Numer. An. II	Appl. Math. Requisite
Group Requisite		Group Requisite 3	100000000000000000000000000000000000000
Elective	4	Elective	HIRITON CONTRACTOR CON

TOTAL - 202 QUARTER HOURS

CH 103-103L-104-104L or GL 110-111 or BI 101-102 or BI 101-103

#### APPLIED MATHEMATICS REQUISITES

Students will select, in consultation with a departmental advisor, 20 hours of upper division mathematics. (MH).

GROUP REQUISITE. A minimum of 25 hours of requisite credit must be taken in areas especially concerned with the application of mathematics. At least 15 hours must be taken in the same area. Primary areas for concentration are: Botany-Zoology, Chemistry, Discrete and Statistical Sciences, Economics, Geology, Physics, Psychology, Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Science and Engineering, Electrical Engineering, Industrial Engineering and Mechanical Engineering.

Students who wish a concentration in computer science are advised to select courses from the following: EE 330, 335,

430; CSE 200, 220, 230, 350, 360, 400, 405, 412, 440, 505, 512, 520, 521, 522, 523, 525, 530.

# Applied Discrete Mathematics

This is an applied discrete mathematics curriculum that prepares students for graduate work in mathematics or theoretical computer science, and for careers in industry supported by modern applied mathematics dealing with problems in graph theory, operations research, discrete optimization, computer science, communications and information sciences.

The curriculum allows flexibility to choose from courses in discrete mathematics, many of which integrate applications of the mathematics with mathematics itself, and provide a foundation in applied analysis and applied algebra. A listing of courses available in discrete mathematics can be found under the Department of Discrete and Statistical Sciences.

An important feature of this curriculum is that students obtain a strong background in computer science, rather than the physics requirement of the traditional applied math curriculum. This emphasis begins in the freshman year, and is continued throughout the curriculum, ending with 15 credit hours of applications in computer science and industrial engineering. Such interdisciplinary requirements give graduates of this program the necessary skills to deal with the diversity of problems arising in industrial careers in discrete mathematics.

# Curriculum in Applied Discrete Mathematics (ADM)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
MH 161 Ar. Geom. Cal	MH 182 Ar. Geom. Cal	MH 183 An. Geom. Cal
	SOPHOMORE YEAR	
MH 264 An. Geom. & Cal. 5 CSE 220 Fnd. Comp. Sc. II 3 U 101 Soc. & Cult. 3 EH 220 Great Books I 5 Elective 3	MH 266 Lin. Alg. 3 CSE 360 Fnd. Alg. D&A 3 U 102 Pollt. Econ. 3 EH 221 Great Books II 5 Interdisc. Req. 3	DMS 263 Intro. to Disc. Alg. 3 MH 331 Intro. to Mod. Alg. 5 U 103 Indiv. in Soc 3 Interdisc. Req. 3 Elective 3
	JUNIOR YEAR	
DMS 575 Graph Theory 5 DMS 517 Comp. Meth. Fin. Flds 5 Statistics ** 5	Discrete Math. Requisite 5 Discrete Math. Requisite 5 Interdisc. Req. 5	Discrete Math. Requisite
	SENIOR YEAR	
MH 537 Linear Algebra *** 5 Discrete Math. Requisite 5 Appl. Analysis Req. 5	Discrete Math. Requisite	Discrete Math. Req. 5 Interdisc. Req. 6 Elective 3

- Core science requirement must be met by taking science major options.
- ** At least five hours credit in Statistics and/or Probability at the 300-level or above.
- *** Students may substitute MH 505, with permission of undergraduate advisor.

Discrete Mathematics Requisite: 30 hours of credit in upper division mathematics (MH and DMS) courses, at least 25 of which must be discrete math courses taken in the Discrete and Statistical Sciences Department.

Applied Analysis Requisite: 10 credit hours to be selected from DMS 530 and MH 503, 504, 507, 508, 520, 521, 563. Students contemplating graduate study should consult with the undergraduate advisor on selecting appropriate courses, interdisciplinary Requisite: At least 25 hours of credit must be taken in courses at the 200-level or above that are oftered by departments in the College of Engineering or the College of Sciences and Mathematics. At least 15 of these 25 hours must be taken in Computer Science and Engineering or Industrial Engineering.

# Microbiology

The Microbiology major is for students who wish to pursue careers in one of the various sub-disciplines of the science or for those preparing for professional degree programs in medicine or veterinary medicine. Required courses provide a strong and broad-based background. Also, students have the opportunity through selection of elective courses to concentrate on special areas of interest, including biotechnology, microbial physiology and genetics and environmental, industrial and health-related aspects of microbiology.

### Curriculum in Microbiology (MB)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
CH	103 or 111 4	CH	104 or 112 4	CH	105 or 1134
CH	103LChem. Lab 1	CH	104L Chem. Lab1	CH	105L Chem Lab 1
U	101 Soc. & Cult 3	U	102 Polit. Econ	U	103 Indiv. in Soc
EH	110 Eng. Comp 5	MH	181 An. Geom. & Calc	MH	162 An. Geom. & Calc 5
BI.	101 Prin. Biol 5	BI	102 Plant Biology5	BI	103 An. Biology 5
			SOPHOMORE YEAR		
CH	207 Org. Chem 4	CH	208 Org. Chem	EH	221 Great Books II
CH	207L Chem. Lab1	CH	208L Chem Lab	Fore	eign Language
EH	220 Great Books I 5	Fore	gn Language5	Core	Fine Arts (p. 39)
ZY	300 Genetics 5	MB	300 Microbiology5	PS	207 Intr. Physics III3
PS	205 Intr. Physics I 4	PS	206 Intr. Physics II 4	PS	207L Physics Lab
PS	205L Phys. Lab 1	PS	206L Phys. Lab1	Elec	tives
			JUNIOR YEAR		
EH	400 Adv. Comp 5	MB	543 Immunology4	CH	519 Biochemistry4
CH	518 Biochemistry 4	MB	543L Immunology Lab2	CH	519L Biochem, Lab
CH	518LBiochem. Lab 1	MB	405 or CH 5214	Core	8 History (p. 39)
Core		Core	History (p. 39) 3		fives
MB	446 Clin. Path. Micro 5		p A/B Elect. "		Adjust Salpertineniini 1 11100
			SENIOR YEAR		
MB	540 Microb. Phys 3	Grou	p A/B Elect. *	Gro	up A/B Elect. *
Con	Philosophy (p. 39)		: estate assessment aminomorphic		tives2
Gro	up A/B Elect. * 8				.0101101001001001001001001011011

#### TOTAL - 207 QUARTER HOURS

Students must take 20 hours from Group A and an additional 15 hours from A or B. Group A and B Electives are as follows: Group A: MB 460, 495, 504, 522, 522L, 541, 542, 556, 558, CH 521, BY 505, ZY 310, 310L. Group B: DMS 215, 501, CH 209, 305, 305L, FAA 423, HF 543, 545, LT 301, MB 508, MH 163, PLP 309, PY 537, ZY 303, 306, 411, 509, 519, 524, 534, 540, CSE 100, EH 404.

#### Curriculum in Molecular Biology (MOB)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
EH	110 English Comp 5	BI	101 Prin. of Biology5	BI	102 Plant Biology
Core	History (p. 39)	Core	History (p. 39)	Core	History (p. 39) 3
MH	161 An. Geom. & Cal	MH	162 An. Geom. & Cal	MH	163 An. Geom. & Cal
CH	111 Gen. Chemistry 4	CH	112 Gen. Chemistry	CH	113 Gen. Chemistry 4
CH	111L Gen. Chem. Lab 1	CH	112L Gen. Chem. Lab 1	CH	113L Gen, Chem Lab 1
			SOPHOMORE YEAR		
CH	207 Org. Chemistry 4	CH	208 Org. Chemistry 3	CH	209 Org. Chemistry4
CH	207L Org. Chem. Lab 1	CH	208L Org. Chem. Lab	PS	207 Intro. Physics III
PS	205 Intro. Physics I 3	PS	206 Intro. Physics II	PS	207L Intro. Physics Lab 1
PS	205L Intro. Physics Lab 1	PS	206L Intro. Physics Lab 1	Elec	tives or ROTC
BI	103 Animal Biology 5	EH	221 Great Books II	ZY	300 Genetics 5
EH	220 Great Books I 5	MB	300 Microbiology5		
			JUNIOR YEAR		
Elect	ives or ROTC 5	MB	405 Intr. Mol. Gen 4	MB	522 Recomb. DNA
ZY	310 Cell Biology 4	CH	519 Biochemistry	MB	522L Rec. DNA Lab
ZY	310L Cell Biol. Lab	CH	519L Biochem. Lab1	CH	316 Physical Chem5
CH	518 Biochemistry 4	MOB	Electives '	EH	400 Adv. Comp 5
CH	518L Biochem. Lab 1	U	102 Polit Econ3	U	103 Indiv. in Soc
0	101 Soc. & Cult		seellelleelleelleelleelleillelleilleille		Constitution of the Consti
			SENIOR YEAR		
MOB	Elect. * 5	MOE	Elect. *	MOR	B Elect. * ,
Spec	al Prob. (see advisor) 3	Spec	tal Prob. (see advisor)		cial Prob. (see advisor) 3
Core	Philosophy (p. 39) 5	Elect	ives 6	Core	9 Fine Arts (p. 39)
MB 4	195/ZY 495/CH 495 1	MB 4	195/ZY 495/CH 4951	MB.	495/ZY 495/CH 4951
		TO	TAL - 204 QUARTER HOURS		
	STATE OF STREET STATE OF THE PARTY OF THE PA	000000	THE RESIDENCE OF THE PARTY OF T		A CONTRACTOR OF CONTRACTOR OF THE PARTY.

MOB Electives are: DMS 215, 501, BY 514, 550, CH 305, 305L, 521, EH 141, MB 540, 542, 543, 545, PS 517, PY 537, ZY 502, 519, 520. During the sophomore year, students will develop a plan of study for the junior and senior years with the assistance and approval of their advisor and dean. Substitutions my be permitted to meet specific needs of individual students.

# **Physics**

This curriculum provides a thorough understanding of the field of physics and develops the ability to apply theoretical and experimental techniques to a wide range of problems. It provides a firm foundation for careers in physics and related fields and an excellent preparation for further study. Graduates find opportunities in industrial and government research and development; chemical, geological, biological and mathematical physics; medical and dental research; environmental science; and teaching and/or research at the college or university level.

## Curriculum in Physics (PS)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
PS PS MH CSE Core	170 Phys. I (w. Calc.)		171 Phys. II (w. Calc.)	PS PS MH EH Core	172 Phys. III (w. Calc.)
			SOPHOMORE YEAR		
PS PS MH MH PS Core	320 Mod. PS for Engr	PS MH Elect U PS	310 Mechanics I	PS U MH EH PS	311 Mechanics II 5 102 Political Economy 3 382 Engr. Math 4 220 Great Books I 5 412 Sem. in Mod. Phys. 1
			JUNIOR YEAR	ne	Ett Clas & Magn II A
MH Elect PS U PS	501 Catc. of Vect	PS EH PS PS	510 Elec. & Magn. 1	PS MH EH Elec PS	511 Elec. & Magn, II
			SENIOR YEAR		
PS	tive (b)	Scie	506 Exp. Phys. I	PS Sae	tive (MH, PS or Eng.) (c)

TOTAL — 202 QUARTER HOURS

Physics Electives. First Quarter: PS 302, 531, 545; Second Quarter: PS 521, 532, 535; Third Quarter PS 303, 533,

520, 575.

(a) The science elective may be met by selecting a total of 15 hours of chemistry, biology or geology. The student may choose to concentrate on one area or to take one course from each area.

(b) Appropriate electives to meet the interests of the student may be selected in consultation with the departmental advisor. Selections can be used for ROTC courses.

(c) Math. electives may be chosen from the following: MH 337; MH 517 or 518; 503 or 504.

# Zoological Sciences

These curricula prepare students for graduate study and a variety of careers in animal biology. The student has the choice of five degree programs including two pre-veterinary medicine options: Zoology, Zoology/Pre-vet, Wildlife Science, Wildlife Science/Pre-vet, and Marine Biology.

# Curriculum in Zoology (ZY)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
BI	101 Prin. of Biology	CH	103 Fund. Chem. 1 * 4	BI	103 Animal Biology 5
EH	110 Eng. Comp 5	CH	103LGen. Chem. Lab1	CH	104 Fund. Chem. II
MH	161 An. Geom. & Cal 5	MH	162 An. Geom, & Cal	CH	104LGen. Chem. Lab 1
U	101 Soc. & Cult	BI	102 Plant Biology5	U	103 Indiv. in Soc 3
-	C or Elective 1	U	102 Polit Econ	HY	101 World History (p. 39) 3
1101	· · · · · · · · · · · · · · · · · · ·	ROT	C or Elective 1	ROT	TC or Elective1
			SOPHOMORE YEAR		
CH	207 Org. Chemistry 4	CH	208 Org. Chemistry3	PS	206 Intr. Physics II4
CH	207LOrg. Chem. Lab 1	CH	208L Org. Chem. Lab	PS	206L Intr. Phys. Lab. II
ZY	300 Genetics 5	PS	205 Intr. Physics I4	Con	e Fine Arts (p. 39) 3
ZY	303 Evolution & Syst	PS	205L Intr. Phys. Lab. I 1	EH	221 Great Books II
HY	102 World History (p. 39) 3	EH	220 Great Books 1 5	GL	110 Phys. Geology 5
	C or Elective	HY	103 World History (p. 39) 3	ROT	TC or Elective1
1101	International proteon continuous		C or Elective 1		· · · · · · · · · · · · · · · · · · ·

	JUNIOR YEAR	
207 Intr. Physics III	ZY 401 Invert. Zoology5	Foreign Lang5
207L Intr. Physics Lab. III 1	Computer Sci	ZY 306 Ecology5
111 Hist. Geology 5	DMS 501 Biostats 5	EH 400 Adv. Comp
310 Cell Biology	ZY 301 Comp. Anat	
310LCell Biol. Lab	100000000000000000000000000000000000000	>1001001001101010101010101010101011011
	SENIOR YEAR	
ign Lang 5	Foreign Lang 5	Zoology Elect
402 Nat. Hist. Vert 5	ZY 524 Animal Physiol5	THE WOOD WINDOWS TO THE PARTY OF THE PARTY O
ny Elective5	Core Philosophy (p. 39)5	
	207L Init. Physics Lab. III	207 Intr. Physics III     3     ZY     401 Invert. Zoology     5       207L Intr. Physics Lab. III     1     Computer Sol.     3       111 Hist. Geology     5     DMS     501 Biostats     5       310 Cell Biology     4     ZY     301 Comp. Anat.     5       310 Cell Biol. Lab     2     SENIOR YEAR       Ign Lang     5     Foreign Lang     5       402 Nat. Hist. Vert     5     ZY     524 Animal Physiol     5

TOTAL — 205 QUARTER HOURS

Chemistry may also be started with CH 101. See advisor for details.

Six hours of advanced ROTC may be substituted for the third quarter of the foreign language plus the one hour of elective in the third quarter of the senior year.

# Curriculum in Wildlife Science (WL)

			FRESHMAN YEAR	-	
	First Quarter		Second Quarter		Third Quarter
BI	101 Prin. Biology 5 103 Fund. Chem. I * 4	BI CH	102 Plant Biology		103 Animal Biology
	103LGen. Chem. Lab		104L Gen. Chem. Lab	Core	110 Eng. Comp
ROT	C or Elective	ROTO	or Elective1		
			SOPHOMORE YEAR		
CH	with the second	ZY	300 Genetics5 303 Evol. & Syst5	EH	221 Great Books II
ZY	205 Wildlife Cons	EH	220 Great Books I 5		Philosophy (p. 39)5
PS	200 Fund. Physics 5 C or Elective 1	HOTO	C or Elective1	HO	TC or Elective 1
HOI	o or Elective				- common de la com
and a	the term of the second	and a	JUNIOR YEAR	2.0	
ZY	328 Prin. Wildl. Mgt 4	ZY	524 An. Physiol5	EH	400 Adv. Comp5
ZY	328LWildl. Mgt. Lab	U	102 Polit Econ	U	103 Indiv. in Soc 3
BY	506 Syst. Botany 5	ENT	304 Gen. Entomology 5	BY	513 Plant Ecology5
AY	304/7 Gen. Soils	Core	Fine Arts (p. 39)3	ZY	574 Herpetology
0	101 Soc. & Guit		***************************************		
			SENIOR YEAR		
FY	523 Silviculture 4	ZY	401 Inv. Zoology5	FY	460 Wld. Rc. Pol 3
ZY	527 Wildl. P&P 3	ZY	528 Wildl. Biology5	ZY	575 Omithology 5
ZY	576 Mammalogy 5	ZY	528L Wildl. Bio. Lab	ZY	531 Wildl. Hab. An 3
EH	304 Tech. Writing 5	DMS	501 Biol. Stats5	FY	542 For. Policy 3
	The test of the te		***************************************	ZY	433 Fish Wild. Law
		**	TAL DOT GULARTER HOUSE		

### TOTAL — 205 QUARTER HOURS

Chemistry may also be started with CH 101. See advisor for details.

Students are required to graduate with the minimum educational requirements necessary to be eligible for certification by the Wildlife Society as an Associate Wildlife Biologist, Deviation from this model may jeopardize this eligibility. Consult your advisor before scheduling alternative courses.

# Curriculum in Marine Biology (MRB)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
BI	101 Prin. of Biology5	CH	103 Fund, Chem. I*	BI	103 Animal Biology
EH	110 Eng. Comp 5	CH	103LGen. Chem. Lab 1	CH	104 Fund. Chem. II
MH	161 An. Geom. & Cal	MH	162 An. Geom. & Cal 5	CH	104LGen. Chem. Lab
U	101 Soc. & Cult 3	BI	102 Plant Biology5	U	103 Indiv. in Soc
ROT	C or Elective 1	U	102 Polit Econ	HY	101 World History (p. 39) 3
	· · · · · · · · · · · · · · · · · · ·	ROT	C or Elective 1	ROT	TC or Elective1
			SOPHOMORE YEAR		
CH	207 Organic Chem 4	CH	208 Organic Chem	GL	110 Phys. Geology 5
CH	207LOrg. Chem. Lab 1	CH	208LOrg. Chem. Lab	Fore	eign Lang 5
ZY	300 Genetics 5	PS	205 Intr. Phys. I	PS	206 Intr. Phys. II
EH	220 Great Books I 5	PS	205LIntr. Phys. Lab I	PS	206L Intr. Phys. Lab. II 1
HY	102 World History (p. 39) 3	EH	221 Great Books II	HY	103 World History (p. 39) 3-
ROT	C or Elective 1	ZY	435 Gen. Ocean	ROT	TC or Elective 1
		ROT	C or Elective 1		
			JUNIOR YEAR		
PS-	207 Intr. Phys. III	EH	400 Adv. Comp5	DMS	5 501 Biol. Stats5
PS	207LIntr. Phys. Lab III 1	ZY	436 Marine Biol	BY	513 Plant Ecology5
ZY	310 Cell Biology 4	ZY	303 Evol. & Syst5	Con	Fine Arts (p. 39) 3
Fore	gn Lang 5	Fore	gn Lang 5	ZY	306 Pnn. of Ecol 5
ZY	402 Nat. Hist. of Vert 5		214271194214214214214421444141414141414141414		

#### SENIOR YEAR

Core Philosophy (p. 39)	5	ZY	401 Inv. Zoology5	ZY 538, 574, 575 or 576
MB 300 Gen. Microbiol	5	ZY	536 Mar. Com. Ecol. 3	GL 111 Hist Geology
Elective	2	ZY	524 An. Physiology5	Elective

#### TOTAL - 218 QUARTER HOURS

Chemistry may also be started with CH 101. See advisor for details.

NOTE: Students must spend a quarter during either the junior or senior year at an approved manne biology laboratory and successfully complete 15 quarter hours of course work there.

### Pre-Professional Curricula

Pre-professional curricula are offered in pre-dentistry, pre-medicine, pre-optometry, pre-physical therapy, pre-occupational therapy, pre-pharmacy and pre-veterinary medicine. Advisors are available in each curriculum to guide the students concerning admissions requirements to the professional schools. The department in which students major will advise them where applicable. Completion of these curricula does not assure admission to a professional school. Competition for admission to professional schools is keen; the number of qualified applicants exceeds the number of places available.

### Pre-Dentistry and Pre-Medicine

This curriculum leads to a Bachelor of Science degree and is designed to prepare students for medical and dental schools. The requirements are very exacting and demand high scholastic competence and performance. As a minimum, students must strive for a **B**-plus four-year college record to attain good promise of being selected by a professional school.

The bachelor's degree is required by most dental and medical schools for admission; however, should outstanding students gain admission to a dental or medical school prior to graduation, they may receive a combination B.S. degree by completing successfully the first nine quarters of this curriculum, a total of 157 quarter hours, and the freshman year of professional school.

Students in pre-dentistry or pre-medicine should take the national Dental Aptitude Test or the Medical College Admission Test at least a year in advance of the date of entry to professional school, and follow with applications to the professional schools of their choice. Early in the junior year, the student should seek information from the Premedical-Predental Advisory Committee concerning procedures to follow to obtain the necessary committee evaluation and recommendation to professional school. Forms and instructions are available in the office of the Dean of Sciences and Mathematics. Most American medical schools recommend that medical and dental school applicants have (1) an academic year each of freshman biology, general chemistry, organic chemistry, and physics; (2) breadth in the educational experience; and (3) in-depth experience in a single discipline. Auburn University students accomplish the above by enrolling in a core of 151 hours as outlined in the following curriculum model. Each student then elects an area of concentration from the College of Sciences and Mathematics (see list below). Depending upon this choice, individuals will have up to 29 hours of electives. Students may also choose to major in a curriculum in another college or school, but they must work with the Assistant Dean for Pre-Health Professions in COSAM for information on the application process

# Curriculum in Pre-Dentistry (PD), Pre-Medicine (PM)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
CH	111 Gen. Chemistry *	CH	112 Gen. Chemistry	CH	113 Gen. Chemistry4
CH	111LGen. Chem. Lab	CH	112L Gen. Chem. Lab	CH	113L Gen. Chem. Lab
MH	161 An. Geom. & Cal 5	MH	162 An. Geom. & Cal	MH	163 An. Geom. & Cal. *** 5
Fore	ign Lang ** 5	EH	110 English Comp	COM	100 Prof. Comm
SM	199 Orientation	Core	Fine Arts (p. 39)	BI	101 Prin. Biol
HY	101 World History (p. 39) 3				11 34 3500 - 2 350 1 310 1 1 1 1 1 1 1 1 1
			SOPHOMORE YEAR		
CH	207 Org. Chem	CH	208 Org. Chem3	CH	209 Org. Chem 4
CH	207L Chem. Lab 1	CH	208L Chem. Lab	ZY	300 Genetics
PS	205 Physics I **** 4	PS	206 Physics II	PS	207 Physics III
PS	205L Phys. Lab 1	PS	206L Phys. Lab 1	PS	207L Phys. Lab 1
HY	102 World History (p. 39) 3	HY	103 World History (p. 39)	EH	221 Great Books II 5
BI	103 Animal Biology 5	EH	220 Great Books I		

### College of Sciences and Mathematics

			JUNIOR YEAR		
ZY	302 Vert. Embryology 5	ZY	310 Cell Biology4	Cor	mputer Sci
EH	400 Adv. Comp 5	ZY	310L Biol. Lab	Ma	or/Concen10
U	101 Soc. & Cull 3	U	102 Polit Econ 3	U	103 Indiv. in Soc
Major/Conc./Elect		PA	218 Ethics & Htth. Sci 5		minimum accommon announce
	100000000000000000000000000000000000000	Map	or/Concen 5		-0101011011011011011011011011011111
			SENIOR YEAR		
	r/Concen		or/Concen	Ma	or/Congen./Elect
		-	And the Contract of the Contra		

TOTAL — 204 QUARTER HOURS

- Chemistry may also be started with CH 101 or 103; see advisor for details.
- Students are encouraged to enroll in a foreign language to capitalize on a strong high school experience. Any foreign language is acceptable. Foreign language is required only in the Biomedical Sciences Option, Basic ROTC may be taken as an elective.
- Students may substitute a course in statistics (DMS 215, 501 or PG 304) for MH 163.
- **** Students planning a physics concentration should take PS 220-221-222 instead of PS 205-206-207.

#### SCIENCES AND MATHEMATICS CONCENTRATION AREAS

Biomedical Sciences: CH 316, 518, 519, MB 300, 543, ZY 560, 561 and 301 or 509, one year of foreign language and three credits of special problems.

Botany: BI 102, BY 306, and 20 additional hours from BY 505, 506, 513, 514, 535, 536 and 554.

Chemistry: Select 30 hours from CH 305, 305L, 316(a), 490, 507(a), 508, 509, 510, 513, 518, 519, 520, 521 and MH 264(b).

Geology: GL 110, 111, 206, 240, 301 and five additional GL hours at the 200-level or above Mathematics: MH 264, 269, 337, 331, 520, and one course from MH 332, 521, 563 or 564.

Microbiology: MB 300, 446, 542 and an additional 15 hours from 400-500 level MB courses.

Physics: Select 30 hours from MH 264, 266, 269, 501, PS 300, 301, 302, 303, 305(c), 306, 320(c). 20ology: Select 15 hours from ZY 303, 306, 401, 402 and an additional 15 hours from ZY 301, 509, 411, 524(d), 560(d) or 551.

(a) Credit cannot be earned for both CH 316 and 507.

- (b) MH 264 will count toward the 30 hours only if it is a prerequisite for a chemistry course that is taken.
- (c) Credit cannot be earned for both PS 305 and 320.
- (d) Credit cannot be earned for both ZY 524 and 560.

### Pre-Optometry

This curriculum leads to a Bachelor of Science degree and prepares students for the rigorous demands of American optometry schools. The requirements are exacting and demand high scholastic competence and performance. As a minimum, students must strive for a B-plus four-year college record to attain good promise of being selected by a professional school.

Each student must either select an area of concentration (see lists below the pre-medicine curriculum model) from the College of Sciences and Mathematics or a major from any other college or school. Students must work with the Assistant Dean for Pre-Health Professions in COSAM in planning their applications.

Students with outstanding records who are able to gain admission to an accredited school of optometry before graduation may qualify for the B.S. degree by one of the following methods: (1) completing successfully the first nine quarters of this curriculum, a total of 156 quarter hours, plus the freshman year of professional optometry school; or (2) completing successfully the first two years of this curriculum, a total of 106 quarter hours, plus three years of professional optometry school.

Pre-Optometry students should write for an official bulletin from each of the professional schools of their choice during the freshman year and discuss with the Pre-Optometry advisor any special requirements of those schools. The requirements of most U.S. schools of optometry are covered in the suggested program below, either as required subjects or as electives. The student should take the Optometry College Admission Test and make official application for admission to the professional schools about a year in advance of the expected date of matriculation.

# Curriculum in Pre-Optometry (OP)

			FRESHMAN YEAR		
	First Quarter		Second Quarter		Third Quarter
CH	103 Gen. Chemistry * 4	CH	104 Gen. Chemistry	CH	105 Gen. Chemistry 4
CH	103L Gen. Chem. Lab 1	CH	104L Gen. Chem. Lab	CH	105L Gen. Chem. Lab 1
MH	161 An. Geom. & Cal 5	MH	162 An. Geom. & Cal	PG	212 Psychology5
EH	110 Eng. Comp 5	COM	100 Prof. Comm	HY	101 World History (p. 39) 3
SM	199 Orientation 1	Core	Fine Arts (p. 39)	BI	101 Prin. Biol
ROT	C or Elective1	ROTO	or Elective1	ROT	C or Elective1

			SOPHOMORE YEAR		
CH	207 Org. Chem4	CH	208 Org. Chem3	PG	304 Quant. Meth 5
CH	207L Chem. Lab 1	CH	208L Chem. Lab	ZY	300 Genetics
PS	205 Physics I ** 4	PS	206 Physics II	PS	207 Physics III
PS	205L Phys. Lab 1	PS	206L Phys. Lab1	PS	207L Phys. Lab1
HY	102 World History (p. 39) 3	HY	103 World History (p. 39) 3	EH	221 Great Books II
BI	103 Anima) Biology 5	EH	220 Great Books I	ROT	C or Elective1
ROT	C of Elective 1	ROT	C or Elective1		
			JUNIOR YEAR		
ZV.	302 Vert. Embryology 5	ZV	310 Cell Biology 4	MB	300 Microbiology 5
EH	400 Adv. Comp 5	ZY	310L Biol. Lab	Majo	or/Concen 5
U	101 Soc. & Cult 3	U	102 Polit Econ3	U	103 Indiv. in Soc
Com	puter Science	PA	218 Ethics & Htlh. Sci	Elec	dive1
		Majo	r/Concen. *** 5		
			SENIOR YEAR		
Majo	or/Concen 10	Majo	or/Concen	Majo	or/Concen./Elect
Majo	r/Concen./Elect	Majo	or/Concen./Elect4		newerther exertment and other
-		TO	TAL - 204 QUARTER HOURS		

TOTAL — 204 QUARTER HOURS

Chemistry may also be started with CH 101; see advisor for details.
 Students planning a physics concentration should take PS 220-221-222 instead of PS 205-206-207.

At the end of the sophomore year, the student must declare a concentration in the College of Sciences and Mathematics, or a major in the College of Liberal Arts (see list in the pre-medicine curriculum model).

### Pre-Physical Therapy

At present, many schools, including the University of Alabama, require a baccalaureate degree for entry into physical therapy at the master's or certificate level. Students applying to schools of physical therapy at the master's level or certificate level should complete the following curriculum model leading to a bachelor's degree or choose a major in another curriculum and fulfill only the minimum requirements for physical therapy programs. Students should write for an official bulletin from each of the professional schools of their choice during their freshman year and discuss with the pre-physical therapy advisor any special requirements of those schools.

Students applying to a two-year B.S. program in physical therapy should plan their schedules with the advisor to satisfy the requirements of their chosen school.

# Curriculum in Pre-Physical Therapy (PT)

			FRESHMAN YEAR		*
	First Quarter		Second Quarter		Third Quarter
CH	103 Gen. Chemistry * 4	CH	104 Gen. Chemistry 4	CH	105 Gen. Chemistry 4
CH	103L Gen. Chem. Lab 1	CH	104L Gen. Chem. Lab	CH	105 L Gen, Chem, Lab 1
MH	161 An. Geom. & Cal	MH	162 An. Geom. & Cal 5	PG	212 Psychology5
EH	110 Eng. Comp 5	COM	100 Prof. Comm	HY	101 World History (p. 39) 3
SM	199 Orientation	Core	Fine Arts (p. 39)	BI	101 Prin. Biol
-	C or Elective 1		C or Elective1	ROT	C or Elective 1
			SOPHOMORE YEAR		
CH	207 Org. Chem 4	CH	208 Org. Chem	PG	304 or MH 267 5
CH	207L Chem. Lab 1	CH	208L Chem. Lab2	ZY	300 Genetics 5
PS	205 Physics I ** 4	PS	206 Physics II 4	PS	207 Physics III
PS	205L Phys. Lab 1	PS	206L Phys. Lab 1	PS	207L Phys. Lab
HY	102 World History (p. 39) 3	HY	103 World History (p. 39) 3	EH	221 Great Books II
BI	103 Animal Biology 5	EH	220 Great Books 15	ROT	C or Elective 1
-	C or Elective 1	ROT	C or Elective 1		190011111111111111111111111111111111111
			JUNIOR YEAR		
ZY	250 Hum. Anatomy 5	ZY	251 Hum. Physiology	MB	300 Microbiology 5
EH	400 Adv. Comp 5		r/Concen. *** 5	PG	356 Abnormal Psych 5
U	101 Soc. & Cult	U	102 Polit Econ 3	U	103 Indiv. in Soc 3
Com	puter Science	PA	218 Ethics & Htlh. Sci	Elec	tive1
			SENIOR YEAR		
Maio	r/Concen 10	Majo	r/Concen 10	Majo	or/Concen./Elect 10
	r/Concen./Elect5		r/Concen./Elect5	Majo	or/Concen 5
		TO	TAL - 204 QUARTER HOURS		

Chemistry may also be started with CH 101; see advisor for details.

** Students planning a physics concentration should take PS 220-221-222 instead of PS 205-206-207

Af the end of the sophomore year, the student must declare a concentration in the College of Sciences and Mathematics, a major in the College of Liberal Arts (see list in the pre-medicine curriculum model), or a major in another college.

# Pre-Occupational Therapy

This curriculum prepares students for admission to occupational therapy schools. The student should strive for a good college record to attain reasonable promise of being selected. Students should write for official builetins from the professional schools of their choice early in their freshman year and discuss with their advisor any special requirements of those particular schools. Official application for admission to the professional schools needs to be made about a year in advance of the expected date of matriculation.

# Curriculum in Pre-Occupational Therapy (OT)

	FRESHMAN YEAR			
First Quarter	Second Quarter	Third Quarter		
BI 101 Prin, Biology	5 ZY 250 Human Anatomy 5	ZY 251 Physiology		
MH 160 Pre-Calc	5 CH 103 Gen, Chem. "	CH 104 Gen. Chem 4		
EH 110 Eng. Comp	5 CH 103L Chem. Lab1	CH 104L Chem. Lab1		
SM 199 Orientation	1 Core Fine Arts (p. 39)	PG 212 Psychology5		
ROTC or Elective		ROTC or Elective2		
www	SOPHOMORE YEAR			
HY 101 World History (p. 39)	3 HY 102 World History (p. 39) 3	HY 103 World History (p. 39) 3		
U 101 Soc. & Cult		U 103 Indiv. in Soc		
AT 112 or 121	4 SOC 220 Statistics	PG 356 Psychology5		
EH 220 Great Books I	5 EH 221 Great Books II	PA 218 Ethics & Hith, Sci		
ROTC or Elective	2 ROTC or Elective 1	ROTC or Elective1		

TOTAL - 102 QUARTER HOURS

Chemistry may also be started with CH 101. See advisor for details

### Pre-Pharmacy

This curriculum meets the requirements for admission to the Auburn University School of Pharmacy, which is fully accredited by the American Council on Pharmaceutical Education. Complete information about the professional curriculum in pharmacy may be found in the School of Pharmacy section.

To be considered for admission, the applicant must complete the basic two-year requirements below and must have a 2.5 (C) GPA based on all courses attempted as well as a 2.5 (C) science index (GPA on the biological and physical science courses and mathematics). A grade of D in any required course will not be accepted. A student who does not qualify for admission to the School of Pharmacy after the completion of eight quarters in pre-pharmacy at Auburn University, but who meets University continuation in residence requirements may continue to register in pre-pharmacy only by special permission of the Dean of Sciences and Mathematics.

# Curriculum in Pre-Pharmacy (PPY)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
CH 111 Gen. Chem. *	CH 112 Gen. Chem4	GH 113 Gen. Chem
CH 111LChem, Lab1	CH 112L Chem. Lab1	CH 113L Chem. Lab 1
MH 161 Calculus 5	Core Fine Arts (p. 39) 3	HY 103 World History (p. 39) 3
HY 101 World History (p. 39)3	EH 110 Eng. Comp5	BI 101 Prin, Biol
ROTC or Elective	HY 102 World History (p. 39) 3	PA 218 Ethics
SM 199 Orientation 1	ROTC or Elective 1	ROTC or Elective1
	SOPHOMORE YEAR	
CH 207 Org. Chem	CH 208 Org. Chem3	PS 207 Physics III
CH 207L Chem. Lab 1	CH 208L Chem. Lab	PS 207LPhys. Lab 1
PS 205 Physics I 4	PS 206 Physics II4	ZY 250 Hum. Anatomy
PS 205L Phys. Lab 1	PS 206L Phys. Lab 1	U 103 Indiv. in Soc 3
U 101 Soc. & Cult 3	U 102 Polit Econ3	MB 300 Microbiology5
EH 220 Great Books I 5	EH 221 Great Books II	1001/001/001/001/01/01/01/01/01/01/01/01

TOTAL - 105 QUARTER HOURS

Chemistry may be started with CH 101 or 103. See advisor for details.

# Pre-Veterinary Medicine

Students in the Pre-Veterinary Medicine (PV) curriculum must select a major by the end of their sixth quarter. Students in Sciences and Mathematics may select microbiology (VMB), wildlife (VWL) or zoology (VZY) as majors. Pre-Veterinary options in the College of Agriculture include animal and dairy science (ADPV) and poultry science (PHPV). The minimum requirements for admission to the College of Veterinary Medicine at Auburn University (112 hours) are incorporated into the curriculum models for all these majors. Those special requirements are:

	CH 207, 208	Bi 101, 103
CH 103, 104, 105	Scientific Electives	PS 205, 206, 20713

It is possible to gain admission to the College of Veterinary Medicine by completing only the minimum requirements listed above. However, it is preferable to select a major and earn a bacccalaureate degree. If a student is admitted to the College of Veterinary Medicine prior to completion of the full four years, he or she may obtain a B.S. degree by successfully completing the first nine quarters of any one of the Pre-Veterinary curricula and the first year of veterinary school.

Application for admission to the College of Veterinary Medicine must be submitted to the Dean of that College between September 15 and October 15 preceding the admission date. A minimum GPA of 2.5 is required for application; **D** grades in required courses are unacceptable. All minimum requirements, including courses repeated due to time limitations, must be completed by the end of the spring quarter preceding the date of admission, and all advanced required courses in physical and biological sciences (organic chemistry and physics) must have been completed within six calendar years prior to the anticipated entrance date. Competition for admission to the professional schools is keen with the number of qualified applicants exceeding the number of places available. For additional information, see College of Veterinary Medicine section and the Pre-Veterinary Medicine curricula in the College of Agriculture.

# Curriculum in Pre-Veterinary Medicine (PV)

	FRESHMAN YEAR	
First Quarter	Second Quarter	Third Quarter
CH 103 Fund. Chem. 4 CH 103L Chem. Lab 1 U 101 Soc. & Cult. 3 MH 180 Pre-Calc. w/Trig. **	CH 104 Fund. Chem	CH 105 Fund. Chem
BH 110 Eng. Comp 5 ROTC or Elective 1	ROTC or Elective 1	Tech. Elective (see advisor)
	SOPHOMORE YEAR	
CH 207 Org. Chem. 4 CH 207L Chem. Lab 1 PS 205 Intr. Phys. I 4 PS 205LPhys. Lab 1 EH 220 Great Books I 5 Core History (p. 39) 3 ROTC or Elective 1	CH 208 Org. Chem	Core Philosophy (p. 39)
	JUNIOR YEAR	
Tech. Elective (see advisor)         5           ADS         321 An. Bio, & Nutr.         5           MB         300 Microbiology         5           Major/Elect.         5	Tech. Elective (see advisor)	Major         5           Major 5         5           Major/Elect 5         5           Major/Elect 3         3
	TOTAL - 170 QUARTER HOURS	

Chemistry may also be started with CH 101 or CH 111. See advisor for details.

^{**} Many students are prepared to begin calculus. Students are urged to take additional calculus courses if they plan to select a major in the College of Sciences and Mathematics.

### Curriculum in Microbiology Pre-Veterinary Medicine Option (VMB)

			FRESHMAN YEAR				
	First Quarter		Second Quarter		Third Quarter		
CH	103 Fund. Chem.*	CH	104 Fund. Chem 4	CH	105 Fund, Chem		
CH	103L Chem. Lab 1	CH	104L Chem. LabT	CH	105L Chem, Lab ,		
U	101 Soc. & Cult	U	102 Polit Econ	U	103 Indiv. in Soc		
BI	101 Prin. Biol 5	BI	103 Animal Biology 5	BI	102 Plant Biol		
EH	110 Eng. Comp	MH	161 An. Geom. & Calc 5	Tech	Elective 5		
			SOPHOMORE YEAR				
CH	207 Org. Chem4	CH	208 Org. Chem 3	ZY	300 Genetics 5		
CH	207L Chem. Lab 1	CH	208L Chem, Lab	Core	Fine Arts (p. 39)3		
EH	220 Great Books I	EH	221 Great Books II 5	PS	207 Intr. Phys. III		
ADS	321 An. Bio. & Nutr 5	MB	300 Microbiology5	PS	207L Phys. Lab 1		
PS	205 Intr. Phys. I	PS	206 Intr. Phys. II	Core	Philosophy (p. 39)		
PS	205L Phys. Lab 1	PS	206L Phys. Lab 1		>11.11.11.11.11.11.11.11.11.11.11.11.11.		
			JUNIOR YEAR				
MB	446 Clin./Path. Micro 5	EH	400 Adv. Comp 5	Core	History (p. 39)3		
MB	540 Micro. Phys 3	MB	543 Immunology 4	Elect	tive8		
CH	518 Biochemistry 4	MB	543L Immunology Lab	CH	519 Biochemistry 4		
CH	518L Biochem, Lab	Core	History (p. 39)	CH	519L Blochem, Lab		
Core	History (p. 39) 3	MB	405 or CH 5214		l sous-demandation of otto to to to to to		
			SENIOR YEAR				
	gn Language 5		gn Language 5	Group A/B Elective7			
Grou	p A/B Electives ** 10	Group A/B Electives12			Elective6		

#### TOTAL - 204 QUARTER HOURS

- CH 111-112-113 series may substitute for 103-104-105.
- " Students must take 15 hours from Group A and an additional 14 hours from A and/or B.

Group A: MB 460, 504, 522, 541, 542, 556.

Group B: DMS 215, BY 505, 514, CH 209, 305, 305L, 520. EH 104, FAA 423, HF 543, 545, LT 301, MB 508, MH 163, PLP 309, PY 537, ZY 411, 519, CSE 100.

# Curriculum in Wildlife Science Pre-Veterinary Medicine Option (VWL)

			FRESHMAN YEAR			
	First Quarter		Second Quarter		Third Quarter	
CH	103 Fund. Chem. I *	EH	110 Eng. Comp 5	CH	105 Fund. Chem. III	
CH	103L Gen. Chem. Lab 1	CH	104 Fund, Chem. II	CH	105L Gen. Chem. Lab	
U	101 Soc. & Cult	CH	104LGen, Chem, Lab 1	U	103 Indiv. in Soc	
MH	161 An. Geom. & Cal	U	102 Polit. Econ	BI	103 Animal Biology 5	
BI	101 Prin. of Biology	BI	102 Plant Biology 5	Tech	. Elective (see advisor) 5	
ROT	C or Elective1	ROTO	G or Elective1	ROT	C or Elective1	
			SOPHOMORE YEAR			
CH	207 Organic Chem 4	CH	208 Organic Chem	ZY	300 Genetics5	
CH	207L Org. Chem. Lab	CH	208L Org. Chem. Lab	PS	207 Intr. Phys. III	
PS	205 Int. Phys. I	PS	206 Intro. Physics II	PS	207L Physics Lab1	
PS	205L Phys. Lab 1	PS	206L Physics Lab	Tech	. Elective (see advisor) 3	
EH	220 Great Books I 5	Core	Core Fine Arts (p. 39)		Gore Philosophy (p. 39)	
ZY	205 Wildl. Cons	EH	221 Great Books II	ROT	C or Elective1	
ROT	C or Elective 1	ROT	C or Elective 1			
			JUNIOR YEAR			
ZY	306 Prin. of Ecol 5	EH	400 Adv. Comp5	MB	300 Microbiology5	
ZY	328 Prin. of Wildl	ADS	321 An. Biochem 5	Tech	. Elective (see advisor) 4	
ZY	328L Wildl. Mgmt. Lab 1	ZY	528 Wildl. Biol5	HY	103 World History (p. 39) 3	
ZY	402 Nat. Hist. Vert 5	ZY	528L Wildl. Biol. Lab			
HY	101 World History (p. 39) 3	HY	102 World History (p. 39) 3			
			SENIOR YEAR			
ZY	303 Evol. & Syst 5	ZY	524 Anim. Physiology	ZY	531 Wildl. Hab. Anal	
FY	523 Silviculture 4	ZY	401 Invert. Zoology 5	ZY	575 Omithology5	
BY	506 Syst. Botany 5	ZY	576 Mammalogy5	DMS	5 501 Biol. Stats 5	
		TO	TAL - 205 QUARTER HOURS			

Chemistry may also be started with CH 101. See advisor for details.

In the event the first-year Veterinary College alternative is not followed, the indicated senior year courses must be completed successfully to earn the B.S. degree in Wildlife Science:

Note: The B.S. degree in Wildlife Science Pre-Veterinary Medicine does not qualify the student for certification as associate wildlife biologist by the Wildlife Society. See advisor for information on certification requirements.

#### College of Sciences and Mathematics

### Curriculum in Zoology Pre-Veterinary Medicine Option (VZY)

#### FRESHMAN YEAR First Quarter Second Quarter 103 Fund. Chem. I * 4 EH 110 Eng. Comp. 5 CH 105 Fund. Chem. III 4 103L Gen. Chem. Lab 1 CH 104 Fund. Chem. II 4 CH 105L Gen. Chem. Lab 1 101 Soc. & Cult. 3 CH 104L Gen. Chem. Lab 1 U 103 Indiv. in Soc. 3 CH CH U BI 103 Animal Biology 5 Tech. Elective (see advisor) 5 ROTC or Elective 1 ROTC or Elective 1 SOPHOMORE YEAR 207 Organic Chem. 4 CH 208 Organic Chem. 3 ZY 303 Evol. & Syst. 5 207L Org. Chem. Lab 1 CH 208L Org. Chem. Lab 2 PS 207 Intr. Phys. III 3 205 Int. Phys. I 4 PS 206 Intro. Physics II 4 PS 207L Physics Lab 1 205L Phys. Lab 1 PS 206L Physics Lab 1 Core History (p. 39) 3 CH PS PS ZY ROTC or Elective ......1 JUNIOR YEAR 400 Adv. Comp. ......5 Tech. Elective (see advisor) .......... 4 ZY ZY Elective ......5 ZY Core Fine Arts (p. 39) ......3 MB 300 Gen. Microbiology ...... 5 ZY 401 Inv. Zoology ......5 Core Philosophy (p. 39) ...... 5 Tech. Elective (see advisor) ...... 3 GL ZY BI 102 Plant Biol. .....5 MH 162 An. Geom. & Calc. ...... 5 Gen. Elective .....

#### TOTAL — 204 QUARTER HOURS

^{*} Chemistry may also be started with CH 101. See advisor for details. In the event the first-year Veterinary College alternative is not followed, the indicated senior year courses must be completed successfully to receive the B.S. degree in zoology.

# College of Veterinary Medicine

J. THOMAS VAUGHAN, Dean
T. R. BOOSINGER, Associate Dean, Academic Affairs
R. C. WILSON, Acting Associate Dean, Research & Graduate Studies,
Coordinator of Animal Health Research
G.E. BEARD, Assistant Dean, Continuing Education and Alumni Affairs

THE COLLEGE OF VETERINARY MEDICINE offers a fully accredited program of training leading to the degree of Doctor of Veterinary Medicine. The curriculum requires four years in the professional college after completion of a pre-professional course curriculum which may take more than four years for the average applicant.

#### Admission

Although the largest percentage of students admitted are residents of Alabama, some spaces are available for non-Alabama students. Most of these are by contract through the Southern Regional Education Board (SREB), but a limited number of non-Alabama students not under a contract program with Aubum University may be accepted. Individuals in this category must have a minimum GPA of 3.0 on a 4.0 scale, must possess exceptional qualifications, pay non-resident university fees and be citizens of the United States. Alabama and SREB students must have a minimum GPA of 2.5 on a 4.0 system on all course work attempted and on all required courses. A grade of **D** on any required course will not be accepted. Also, the Committee on Admissions and Standards of the College of Veterinary Medicine may require a personal interview, a reading comprehension test or an examination on any required course. The College of Agriculture and the College of Sciences and Mathematics offer Pre-Veterinary curricula and are responsible for pre-veterinary counseling. Although farm experience and work with veterinarians are not absolute requirements for admission, applicants are urged to gain such training. Students without this experience frequently have difficulty with certain courses, particularly in the clinical areas.

Application for admission to the pre-veterinary curriculum should be made directly to the Admissions Office, Auburn University. Application for admission to the College of Veterinary Medicine, except for SREB students, should be made to the Chairman of Admissions, College of Veterinary Medicine, Auburn University, AL 36849. SREB students must apply through their appropriate state agency.

# Minimum Requirements for Pre-Veterinary Medicine

- Completion of the Core Curriculum as stated in the General Information section in this Bulletin.
- 2. Specific Course Requirements: Minimum pre-veterinary requirements for Alabama residents are exactly as listed for the pre-veterinary curriculum. The program in the College of Agriculture has the same courses, but they are distributed over nine quarters. Non-Alabama and SREB applicants must have acceptable equivalents which have been approved by the College of Veterinary Medicine. Individuals taking the pre-veterinary curriculum are expected to declare an academic major prior to their fifth quarter of enrollment.
- 3. All transfer courses must be equivalent in hours and content. CLEP substitutions are acceptable as stated in this catalog but only for biology, history and humanities. English credit can be earned only as stated in the Core Curriculum. Courses will not be waived on the basis of degrees or "practical experience." Pass-Fail or Satisfactory-Unsatisfactory grades are not acceptable in required courses. Consideration will not be extended to anyone with an overall or required course GPA of less than 2.5 or who is not a bona fide resident at the time of application.
- 4. Time Limitation: All required courses in the advanced physical and biological science categories must have been completed within six calendar years prior to the anticipated date of enrollment in the College of Veterinary Medicine.
- Standardized examination: Applicants must complete the Graduate Record Examination (verbal and quantitative) within five years immediately preceding the deadline for receipt of applications (November 1). Results of the GRE must be officially reported to the Office of Academic Affairs, College of Veterinary Medicine by January 5 of the following year.

### Application Procedure

Admission of Alabama residents to the College of Veterinary Medicine must be gained through formal application made between September 15 and November 1 preceding the fall quarter in which admission is desired. The length of residence of Alabama applicants shall be a factor. The final date for accepting applications from non-Alabama students is November 1. SREB applicants should consult their advisors for their exact dates. All applicants must be citizens of the United States.

Application packets, available from the College of Veterinary Medicine or the Kentucky advisors, contain all materials necessary and instructions for making application. A processing fee of \$35.00 is required of all applicants, and an additional \$25.00 is required of all who have not previously attended Auburn University.

Students admitted to the College of Veterinary Medicine must submit one completed physical examination report on a form supplied by Auburn University at least three weeks prior to date of registration (not required of students formerly enrolled at Auburn University) and comply with the requirements of the rabies immunization program of the College. Also required are two supplemental official transcripts of any work completed after application is filed.

The final selection of students is made by the Committee on Admissions and Standards of the College of Veterinary Medicine, Auburn University. These selections are made from the applicants who have been certified by the committees in the respective states after giving due consideration to scholastic record and general adaptability for the profession. The right is reserved to accept or reject any applicant.

Microscopes — To be admitted to the College of Veterinary Medicine, a student must own a compound microscope acceptable to the faculty. The student must furnish a microscope in all courses requiring the use of this instrument.

Admission under the Regional Plan — Under the Regional Plan for Veterinary Training, the College of Veterinary Medicine currently serves two states: Alabama and Kentucky.

The Land-Grant institution in each state participating under the SREB plan maintains counseling and guidance service for students desiring admission to the College of Veterinary Medicine. Students attending other institutions should contact the Land-Grant School advisor in their state for information concerning admission requirements.

# Scholastic Requirements

All applicants and students in the professional program are subject to the academic and disciplinary regulations of the College of Veterinary Medicine in addition to those of Auburn University.

Any student who earns less than a 2.25 GPA for any quarter will be placed on academic probation. A student who fails to earn a 2.25 GPA in each of the succeeding two quarters of enrollment may be dropped from the rolls of the College of Veterinary Medicine for scholastic deficiency. In addition, a student who does not have a veterinary college cumulative average of 2.25 at the end of any academic year may be required to withdraw from the College of Veterinary Medicine.

A student who makes a grade of F on any course may be required to withdraw from the College of Veterinary Medicine until such time as the course is offered again. Such a student may be required to repeat certain other courses in the curriculum for that quarter.

Clinical courses are unique in that the art and skills to be developed in them can be acquired only through full participation in the laboratories. Attendance in these courses is required except in case of illness or other extenuating circumstances as may be judged by the involved instructor. Grading in these clinical laboratory courses is primarily by subjective evaluation. When a course involves student rotation through several disciplines or sections, the student must receive a passing grade in each area before a passing grade can be given for the course.

The responsibility for counseling is shared by the faculty of this College and the Career Development Service.

# Required Withdrawal

The faculty of the College of Veterinary Medicine reserves the right to require the withdrawal at any time of any student who in the judgment of the admissions and standards committee is not profiting from the instruction offered, who is neglectful, irregular, dishonest or indifferent in the performance of required duties and studies or whose character or conduct is inconsistent with good order of the veterinary college or with the standard of the veterinary profession.

# Requirements for Graduation

To be eligible for the D.V.M. degree, candidates must complete all of the required courses in the order listed in the curriculum in veterinary medicine with a minimum overall GPA of 2.25. Following completion of all academic work, each student is required to serve a preceptorship of one quarter with an approved practicing veterinarian. A certificate of satisfactory completion of a preceptorship is required for graduation.

A graduation fee of \$15.00 must be paid at the beginning of the quarter of graduation and all

indebtedness due the institution must be paid prior to graduation.

# Curriculum in Veterinary Medicine (VM)

			FIRST YEAR		
	First Quarter		Second Quarter		Third Quarter
VM	320 Anatomy I 5	VM	321 Anatomy II5	VM	322 Anatomy III5
VM	326 Micro. Anat. I	VM	327 Micro. Anat. II	VM	328 Micro. Anat. III
VM	313 Physiology I 5	VM	314 Physiology II5	VM	315 Physiology III5
VM	300 Orientation 2	VM	411 Microbiology II5	VM	412 Microbiology III5
VM	331 Microbiology I 4				
			SECOND YEAR		
VM	405 Pathology I 5	VM	406 Pathology II5	VM	423 Clinical Pathology 5
VM	413 Microbiology IV 4	VM	410 Parasitology II4	VM	407 Pathology III
VM	409 Parasitology I 4	VM	401 Pharmacology II	VM	427 S.A. Med. & Surg. I 4
VM	319 Pharmacology I 5	VM	432 Microbiology V3	VM	402 Pharmacology III2
VM	428 L.A. Phy. Diagnosis 1	VM	316 Physiology IV5	VM	429 S.A. Phys. Diag 1
			TOOTOO TO THE PROPERTY OF THE	VM	421 Intr. to Surg 3
			THIRD YEAR *		
VM	414 L.A. Med. I 5	VM	433 Avian Diseases 4	VM	440 S.A. Clinics I
VM	424 S.A. Med. & Surg. II 3	VM	425 S.A. Med. & Surg. III 5	VM	444 L.A. Clinics I
VM	408 Lab. An. Med	VM	420 L.A. Med. II	VM	435 Theriogenology5
VM	431 Vet. Radiology 4	VM	422 L.A. Surgery		manness constraint and a second
VM	448 S.A. Surg. Pract. I	VM	449 S.A. Surg. Pract. II		
VM	403 Vet. Toxicology	VM	426 Clin. Path. Lab 1		alatanamanamanamanaman
			FOURTH YEAR *		
VM	437 Vet. Toxicology 3	VM	442 S.A. Clinics III7	VM	443 S.A. Clinics IV 5
VM	441 S.A. Clinics II 7	VM	446 L.A. Clinics III7	VM	447 L.A. Clinics IV 5
VM	445 L.A. Clinics II 7	VM	439 L.A. Med. IV5	VM	430 Jurisp. & Ethics
VM	438 L.A. Med. III		101101101101101101101101101101111111111	VM	455 Ethology 1
			national memerican series and an arrangement	VM	453 Practice Mgmt
	ононовынополонополотинити			VM	463 Adv. Vet. Appl 4
			SPRING QUARTER		

"Beginning with the third quarter of the third year, clinical participation will be continuous, divided into five periods called quinarys. Fee payments and grade reporting will follow the university quarterly schedule.

# Graduate Programs

Master of Science degrees are offered in each department in the College of Veterinary Medicine. The Doctor of Philosophy degree is offered in a college-wide program. Refer to the Graduate School Bulletin for further information.

# The Graduate School

JOHN PRITCHETT Intenm Associate Vice President for Academic Affairs and Dean MICHAEL LISANO, Associate Dean REBECCA H. RODEN, Assistant Dean

A STUDENT with a bachelor's degree from an accredited college or university may apply to the Dean of the Graduate School for admission. Application forms for admission may be obtained from the Graduate School, and all application materials must be received by the Graduate School at least three weeks before registration.

The Graduate School Bulletin should be consulted for detailed information on the regulations of the Graduate School, the courses offered for graduate credit, the requirements for degrees, fellowships and assistantships and other matters pertaining to graduate work in this institution. Undergraduates wishing to register for graduate courses should consult the Graduate School Bulletin for regulations concerning such registration. A Bulletin may be obtained upon request from the Dean of the Graduate School.

# Graduate Degrees

# The Master's Program

Master of Science degrees are offered in the areas of Aerospace Engineering; Agricultural Economics and Rural Sociology; Agricultural Engineering; Agronomy and Soils; Anatomy and Histology; Animal and Dairy Sciences; Botany and Microbiology; Business Administration with options in Finance, Management and Marketing; Chemical Engineering; Chemistry; Civil Engineering; Communication Disorders; Computer Science and Engineering; Consumer Affairs; Counseling and Counseling Psychology; Curriculum and Teaching; Discrete and Statistical Sciences; Economics, Educational Leadership; Educational Media; Electrical Engineering; Entomology; Family and Child Development; Fisheries and Allied Aquacultures; Forestry; Geology; Health and Human Performance; Horticulture; Industrial Engineering; Large Animal Surgery and Medicine; Management, Materials Engineering; Mathematics; Mechanical Engineering; Microbiology; Nutrition and Food Science; Ornamental Horticulture; Pathobiology; Pharmacal Sciences; Pharmacy Care Systems; Physics; Physiology and Pharmacology; Plant Pathology; Poultry Science; Psychology; Radiology; Rehabilitation and Special Education; Small Animal Surgery and Medicine; Sociology; Textile Science; Vocational and Adult Education; Wildlife Science; and Zoology.

Master of Arts degrees are offered in the areas of Communication, English, French, His-

tory, Political Science, Sociology and Spanish.

Other Master's Degrees: Master of Accountancy, Master of Aerospace Engineering, Master of Agriculture, Master of Applied Mathematics, Master of Aquaculture, Master of Arts in College Teaching, Master of Building Construction; Master of Business Administration, Master of Chemical Engineering, Master of Civil Engineering, Master of Communication, Master of Communication Disorders, Master of Community Planning, Master of Computer Science and Engineering, Master of Education, Master of Electrical Engineering, Master of Fine Arts, Master of Forestry, Master of French Studies, Master of Hispanic Studies, Master of Industrial Design, Master of Industrial Engineering, Master of Management Information Systems, Master of Materials Engineering, Master of Mechanical Engineering, Master of Music, Master of Probability and Statistics, Master of Public Administration and Master of Zoological Studies.

# The Doctoral Degree Program

The Doctor of Education degree is offered in the departments of Counseling and Counseling Psychology; Educational Foundations, Leadership and Technology; Health and Human Performance and Vocational and Adult Education.

The Doctor of Philosophy degree is offered in the areas of Aerospace Engineering; Agricultural Engineering; Agronomy and Soils; Animal and Dairy Sciences; Botany and Microbiology; Chemical Engineering; Chemistry; Civil Engineering; Computer Science and Engineering; Counseling Psychology; Counselor Education; Curriculum and Teaching; Discrete and Statistical Sciences; Economics: Electrical Engineering; English; Entomology; Family and Child Development; Fisheries and Allied Aquacultures; Forestry; Health and Human Perfor-

mance; History; Industrial Engineering; Management; Materials Engineering; Mathematics; Mechanical Engineering; Nutrition and Food Science; Physics; Plant Pathology; Poultry Science; Psychology; Public Administration; Rehabilitation and Special Education; Wildlife Science; Zoology; and interdepartmental programs in Biomedical Sciences; Economics; and Pharmaceutical Sciences.

# Research Program with the ORAU

Auburn University is one of the sponsoring institutions of the Oak Ridge Associated Universities research program located at Oak Ridge, Tennessee. Through this cooperative association Auburn's graduate research programs have at their disposal the facilities of the National Laboratories in Oak Ridge and the research staffs of these laboratories.

Information on the opportunities for research in the Oak Ridge Laboratories is available in

the office of the Vice President for Research.

# Interdepartmental and Interdisciplinary Curricula

#### Graduate

### Interdepartmental Programs

The Graduate School offers three interdepartmental programs which lead to the Doctor of Philosophy degree: Biomedical Sciences; Economics; and Pharmaceutical Sciences. Students in the interdepartmental Sociology program may earn the Master of Arts, Master of Science or Master of Arts in College Teaching degree. The departments of Sociology and Anthropology and Agricultural Economics and Rural Sociology are the cooperating departments in Sociology. The Master of Science in Textile Science is offered jointly by the departments of Consumer Affairs and Textile Engineering.

# Reserve Officers' Training Corps

# Department of Air Force Aerospace Studies (AFROTC)

COLONEL RICHARD E. BUTLER

Commander and Professor of Aerospace Studies

THIS COUNTRY'S FUTURE as the world's leading military power depends largely on its military leaders. The Air Force Reserve Officer Training Corps has the role of preparing young men and women for military leadership. All cadets who successfully complete the program will be commissioned as officers upon college graduation. The Air Force needs junior officers to fly sophisticated aircraft, to operate high-speed computers, to work in research and development and to specialize in fields such as law and medicine. Numerous opportunities exists for liberal arts majors as well. Air Force ROTC offers a four-year program and a two-year program. Air Force ROTC classes are open to all college students. Interested students should contact the Department of Air Force Aerospace Studies.

# General Military Course (GMC)

The General Military Course comprises one class hour and one Leadership Laboratory hour per week. One credit hour is allowed for each quarter of the six-quarter basic courses. Up to six credit hours may be applied toward the total credits required for graduation. At leadership laboratory, cadets receive leadership training in military customs and courtesies, drill and ceremonies, flag etiquette, physical fitness, ethics and officership. Students are also provided the opportunity to visit various Air Force bases to aquaint them with operational Air Force units.

### Curriculum in the General Military Course

AF 101-102-103 The Air Force Today AF 201-202-203 The Development of Air Power

# Professional Officer Course (POC)

The Professional Officer Course consists of a six-quarter course series normally taken during the junior and senior years. Enrollment in the POC is also open to graduate students if they have six quarters of school remaining. Three classroom hours of instruction and one hour of Leadership Laboratory are taken per week. Six credit hours may be applied toward graduation. All POC cadets must complete a course in mathematics reasoning (normally fullfilled by the core requirements). At present, all POC cadets who meet eligibility criteria receive \$2,000 each year for tuition and books. Additionally, they receive a monthly allowance of \$100.

## Curriculum in the Professional Officer Course

AF 301-302-303 Air Force Leadership and Management AF 401-402-403 National Security Forces in Contemporary American Society

# Field Training (FT)

Cadets completing the General Military Course attend four weeks of FT during the summer at a selected Air Force Base (those not having completed the GMC attend six weeks). This rigorous program of leadership training, physical conditioning and academics assesses the cadet's potential to be an Air Force officer. Cadets also receive survival and firearms training, career information and a military aircraft orientation fight. Cadets receive travel pay and daily pay for FT.

# Air Force ROTC Scholarships

Air Force ROTC offers one- to three-year scholarships on a competitive basis to college students. The scholarships pay for tuition, books and lab fees, and gives the cadet a \$100 monthly allowance. Cadets must meet certain eligibility requirements such as age, grade-point average, medical and physical fitness for these scholarships.

### Flight Screening

Pilot candidates go through military aircraft training usually during the summer before the senior year. This training includes ground school, flight instruction the USAF T-3A Firefly. This screening program ensures that the cadet has an aptitude for training as an Air Force pilot.

# Advanced Training Programs (ATP)

Cadets are eligible for Advanced Training Programs between their junior and senior years. ATP consists of several different programs, such as Army Airborne, USAF Survival Training, USAF Freefall parachute training, Field Training Cadre, a British Exchange program and the Professional Development Program – a two-week orientation at an active duty base. Cadets receive travel pay and daily pay for most of these programs.

# Department of Military Science

LIEUTENANT COLONEL ROBERT F. WEBB Professor of Military Science and Commander

THE PURPOSE of the Army ROTC program is to select, train and motivate the future leadership of the active Army, Army National Guard and Army Reserve. Initial ROTC courses serve to acquaint Auburn students with the Army and its role in our society, advanced ROTC courses prepare students for service as a commissioned officers. The overall Army ROTC curriculum prepares students to become effective leaders and managers in a variety of challenging fields.

The curriculum is divided into two courses; a General Military Course open to all freshmen and sophomores and an Officer Development Course for qualified juniors, seniors and graduate students. Successful completion of both courses and award of a bachelor's degree constitute the normal progression to gaining a commission as a Second Lieutenant. Courses are available to both men and women students.

Students undecided about pursuing commissions may keep this option open by participating in the General Military Course together with their chosen curriculum. This provides freshmen and sophomores the opportunity to make an educated decision on the advantages of gaining an officer's commission while incurring no military obligation. Successful completion of the General Military Course or commensurate training, a minimum 2.0 grade point average and medical qualifications are prerequisites for enrollment in the Officer Development Course.

# General Military Course

Basic Program — The Basic Military Science courses enrich the freshman and sophomore students' courses of study and count toward their graduation requirements. Completing these courses also opens up an additional career option, enabling them to participate in advanced studies toward award of an officer's commission. Subsequently, they may gain either active service or service in the National Guard or Reserves while pursuing their civilian career choices. The basic program consists of a six-quarter block of instruction taken during the freshman and sophomore years. Successful completion of MS 101, 102, 103, plus MS 201, 202, 203, together with leadership lab each quarter, satifies the academic requirements for progression to the Officer Development Course. One credit hour per quarter is earned in each of the courses. Approval may be obtained to allow completion of all six courses within one academic year.

# Curriculum In The General Military Course

(MS I/MS II) (Basic Program)

MS 101 The U.S. Army Today '

MS 102 Contemporary Military Issues *

MS 103 Modern Military Weapons and Operations *

MS 201 Military Power and National Security *

MS 202 Map Reading *

MS 203 Leadership and Management *

^{*} Includes Leadership Lab

Other MS courses provide unique hands-on training in mountaineering, tactics and wilderness skills. The Professor of Military Science may grant basic program credit for completion of these hands-on training courses. Selected courses are offered Fall, Winter and Spring Quarters with two credit hours earned for each course. Elective credits apply toward degree requirements in all schools of the university. The following course is available for Elective credit: MS 305 Ranger Operations (Different Instruction is offered each quarter).

### Optional Basic Camp

Those academically qualified students who are unable to fulfill the requirements of the Basic Program during their freshman and sophomore years may qualify themselves for admission to the Officer Development Course by successfully completing Basic Camp preparatory training. The basic camp option consists of a six-week training period conducted at an active Army post during the summer months. Students desiring to exercise this option are required to submit a formal application and pass a general physical.

Students electing the basic camp training program will receive approximately \$750 in addition to travel expenses to and from camp. Uniforms, housing, medical care and meals are

furnished by the government during the camp.

Deadline for applications is May 30. Interested students should contact the Military Science Department at the start of Spring Quarter, or earlier.

### Officer Development Course

Advanced Program — The Advanced Program is designed to develop fully a candidate's leadership and management potential, physical stamina, and poise, as well as those personal characteristics desired in an Army Officer. The program's objective is to produce the highest caliber junior officer fully capable of command and management responsibilities in the modern Army and the business world.

The Officer Development Course consists of a six-quarter block of instruction taken during the junior and senior years. Successful completion of six courses together with leadership laboratory each quarter fulfills military science academic requirements for award of an officer's commission. Three credit hours per quarter are earned in each of the courses. Students currentlyreceive a subsistence allowance of \$100 a month (tax free) not to exceed \$1000 per academic year, while enrolled. This amount is expected to increase to \$150 per month in FY 95-96.

Service veterans, junior or military college transfers, members of the National Guard or Army Reserve, and former military academy cadets may qualify for direct entry into the Officer Development Course.

Advanced program students are eligible to participate in the Simultaneous Membership Program with the Army National Guard or Army Reserve. Students participating in this program affiliate with an Army unit as a student officer thus affording them the opportunity for enhanced leadership development. Students in this program receive an additional \$160 per month and Montgomery GI Bill benefits if qualified.

Students enrolled in the Officer Development Course are also required to complete successfully a six-week Advanced Camp at Fort Lewis, Washington, during the summer to become eligible for commissioning. Attendance at Advanced Camp normally occurs in the summer between the junior and senior years. The purpose of Advanced Camp training is to provide each candidate hands-on experience in leadership development positions as well as extensive training in military tactics, techniques and related subjects vital to success as a junior officer. Students attending Advanced Camp receive approximately \$825 in addition to travel expenses to and from Fort Lewis. Uniforms, housing, medical care and meals are furnished by the government during the camp.

Additional voluntary training at one or more of a variety of active Army service schools is available to selected students during the summer. Students may select attendance at Airborne School, Air Assault School, The Northern Warfare Training Center and Cadet Troop Leadership Training. Students who successfully complete the appropriate course are authorized to wear the coveted Parachutist Badge and Air Assault Badge.

Students who successfully complete the Army ROTC curriculum and who gain a bachelor's degree serve on active duty or with with the Army National Guard or Army Reserve. Outstanding candidates who are selected as Distinguished Military Students may gain Regular Army commissions. Active duty is for a period of three years with the opportunity for

quality officers to apply for extended service. Current salary and allowances for a married Second Lieutenant exceed \$27,000. Medical and other benefits are also provided at no cost. The following courses constitute the Advanced Program.

### Curriculum In The Officer Development Course

(MS III/IV) (Advanced Program)

MS 301 Land Navigation Techniques 1

MS 302 Military Training and Instruction Techniques *

MS 303 Military Qualification Skills *

MS 401 Military Justice and Ethics "

MS 402 Adv. Leadership and Management I*

MS 403 Adv. Military Leadership and Management II *

MS 404 Leadership Laboratory

Includes Leadership Lab and physical conditioning three days a week

# Professional Military Education Requirements

All Army ROTC cadets are required to complete one quarter of selected undergraduate courses in five designated fields of study prior to graduation.

The fields of study and approved courses are:

Written Communication Skills: fulfilled by the Core Curriculum.

Humanities: fulfilled by the Core Curriculum.

Military History: HY 309 (Alternate course may be taken with PMS approval).

Computer Literacy: CSE 100 through 422.

Math Reasoning: fulfilled by the Core Curriculum.

# Scholarship Programs

Each year the Army offers a variety of full scholarship programs to those young men and women who have demonstrated outstanding academic scholarship and leadership potential. Four-year scholarships are awarded incoming freshmen through national merit competition. Three- and two-year scholarships are available on a national competitive basis. Scholarships will pay most or all of the tuition costs for both resident and out-of-state students, textbooks, materials and laboratory fees. In addition, the students receive a \$100 a month tax-free allowance. This amount is expected to increase to \$150 a month in FY 95-96.

# Army Nurse Corps Option

Students enrolled in the School of Nursing curriculum leading to the degree of Bachelor of Science in Nursing may simultaneously qualify for commissions as Second Lieutenants in the Army Nurse Corps.

Nursing students qualify for entry into the Officer Development Course through satisfactory completion of either the General Military Course, the Basic Camp option or equivalent training.

Nursing students participate in a two-week summer Advanced Camp training program and an Army nurse training program. The alternate advanced training is a voluntary six-week program for nursing students at selected medical treatment facilities throughout the United States. It is structured to provide practical and leadership experience in the clinical setting. The primary focus is providing nursing cadets an experience which integrates clinical, interpersonal and leadership knowledge and skills. Emphasis is placed on practical experience under the direct supervision of an Army Nurse Corps Officer who acts as the cadet's preceptor throughout the camp period.

# Department of Naval Science

CAPTAIN JIMMY L. ELLIS, USN Commanding Officer and Professor of Naval Science

THE MISSION OF NROTC is to develop Midshipmen mentally, morally and physically and to commission college graduates as Naval Officers who possess a basic professional potential for future development in mind and character so as to assume the highest responsibilities of command, citizenship and government. All NROTC Programs are open to qualified men and women students. All Naval Science courses, basic and advanced, are open to all Auburn students regardless of affiliation with the NROTC Program.

# Types of NROTC Programs

Four-Year NROTC Navy-Marine Scholarship Program. Successful completion leads to commission in the Navy or Marine Corps Reserve. Minimum active duty service is four years.

Tuition, fees, and all textbooks are paid for by the government. Subsistence pay is \$150 per month for a maximum of 40 months. Active duty pay for summer training is approximately \$560 per month with living guarters and meals provided.

Although the Navy emphasizes engineering and science majors, students may take most Auburn University majors leading to baccalaureate degrees. In addition to the requirements of their major, NROTC students must complete 29 quarter hours of Naval Science. Summer activities include two at-sea training cruises and one summer period of career orientation lasting from four to eight weeks each. Marine Option students participate in a six-week orientation at Quantico, VA in lieu of the second at-sea training cruise.

Entrance to the Navy-Marine Scholarship Program is via nationwide competition. Applicants must make independent arrangements to take either the Scholastic Aptitude Test or the American College Test.

Scholarship students may resign without obligation any time prior to the beginning of the second year in the Program.

Qualifications for enrollment, application blanks and information bulletins are available at high schools, colleges, recruiting stations and the Auburn NROTC Unit.

Four-Year NROTC Navy-Marine College Program. Leads to a commission in the Navy or Marine Corps Reserve. Subsistence pay is \$150 per month for a maximum of 20 months during the final two years of training. Minimum active duty service is three years (3 1/2 years for Marines). Any Aubum student may enter the College Program through application to the Professor of Naval Science.

Four-year College Program students may resign from the Program at any time during the freshman and sophomore years without obligation.

Students in both the four and two-year programs may apply for the Scholarship Program through nomination by the Professor of Naval Science for appointment by the Chief of Naval Education and Training as Scholarship students.

College Program students must complete Naval Science requirements prior to or concurrently with receipt of a baccalaureate degree. Summer training consists of at-sea training cruise between junior and senior years. Students desiring commissions in the Marine Corps will participate in a six-week orientation at Quantico, VA in lieu of at-sea training.

Two-Year NROTC Navy-Marine Scholarship and College Programs. Selections for these programs are made on a national basis from nominations submitted by the Professors of Naval Science. Selected applicants attend the Naval Science Institute (NSI) for six weeks during the summer prior to the junior year. Successful NSI completion qualifies students for enrollment in the advanced course of the NROTC Program.

NROTC Nurse Corps Option Scholarship Program. Successful completion leads to commission in the Naval Reserve Nurse Corps. Minimum active duty is four years. Tuition, fees, all textbooks and all equipment and uniform items within the BSN degree curriculum are paid by the government. Subsistence pay and active duty pay for summer training is equivalent to the pay provided by the Navy-Marine Scholarship Programs.

Students must be enrolled in the BSN program and are required to complete NS 111, 212, 213 and 411-413. Summer activities include an at-sea training cruise and one shore-based hospital training period.

#### Reserve Officers' Training Corps

Entrance to the NROTC Nurse Corps Option Scholarship Program is via nationwide competition. Additionally, a limited number of scholarships may be awarded by the Professor of Naval Science. Applications for Nurse Corps Option Program scholarships may be obtained at the Auburn NROTC Unit. The Nurse option is also available under the Four-Year College Program.

### Equipment

Uniforms, Naval Science textbooks and equipment necessary for the NROTC Program are furnished in all four programs.

#### Curriculum

The Naval Science curriculum consists of the following class hours per week: Freshman, 3 hours; Sophomore, 3 hours; Navy Option Juniors, 4 hours (Nurse Option, none); Marine Option Juniors, 3 hours; Seniors, 3 hours (Nurse Option, none). All students attend the Naval Science laboratory for 2 hours per week.

Naval Science subjects carried during the four-year curriculum are listed in the Description of Courses section of this Bulletin. Only 300/400 series subjects are applicable to the Two-

Year Programs.

Naval Science course hours are considered as part of the normal quarterly loads; however, Auburn University graduation requirements are increased 11 to 20 hours, depending upon the College or School in which the student is enrolled, over the number of hours listed in the *Auburn University Bulletin*. Navy Option Scholarship students must also complete calculus and physics courses.

# Courses of Instruction

THIS SECTION lists and describes all undergraduate courses taught by the departments of the University. The courses are presented by subjects, arranged alphabetically. The subject name (the heading in large type) is followed by the departmental symbol in parentheses. Below the subject appears a list of the departmental faculty.

The subject name (symbol) together with the course number constitutes the official designation for the course for purposes of registration and official records. The specific course title appears following the course number. The figures in parentheses denote the number of quarter hours of credit for the course. Following the credit hours are listed lecture and laboratory clock hours, if applicable. If none are listed, the course consists of lecture hours equal in number to course credit. Next appear the prerequisites, if applicable.

Courses are numbered according to the following system:

- 101-199 Courses primarily for freshmen.
- 201-299 Courses primarily for sophomores.
- 301-399 Courses primarily for juniors.
- 401-499 Courses primarily for seniors. Not open to graduate students
- 501-599 Courses for advanced undergraduate and graduate students; and for fifth year students in professional curricula. Junior Standing Required For Enrollment At This Level.

Descriptions for graduate courses (601-799) can be found in the Graduate Bulletin.

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# Accountancy (AC)

Professor Alderman

Associate Professors Tabor, *Director*, Fields, Price, Rasch, Wilson and Worthington Assistant Professors Beard, Bradley, Bryan, Smith, Stanwick and Weld Instructors Cook, Evans and Haygood

A 2.0 GPA is required for enrollment in any Business course at the 300-level or above. This rule applies to both Business and non-Business students.

- PRINCIPLES OF ACCOUNTING I (4). Pr., sophomore standing. Basic accounting principles, including the accounting cycle and preparation of financial statements. AC 211 is not open to students with credit in AC 215.
- 212. PRINCIPLES OF ACCOUNTING II (4). Pr., AC 211. A continuation of accounting principles with emphasis on their application to partnerships, corporations and preparation and analysis of various financial statements.
- 213. MANAGERIAL COST AND BUDGETING (4). Pr., AC 212 and non-Accounting major. Introductory cost accounting and budgeting with emphasis on distribution costs and managerial accounting problems.
- 215. FUNDAMENTALS OF GENERAL AND COST ACCOUNTING (5). Pr., sophomore standing. Fundamental concepts and principles of general and cost accounting. Emphasis on accumulating, reporting and interpreting cost data in the production area of business operations. (Not open to undergraduates majoring in Business. Credit in AC 211 precludes credit for AC 215.)
- INTERMEDIATE ACCOUNTING I (5). Pr., AC 212 and junior standing. Accounting principles and theory, including a review of the accounting cycle and accounting for current assets, current liabilities and investments.
- 312. INTERMEDIATE ACCOUNTING II (5). Pr., AC 311 with a grade of C or better. Continuation of accounting principles and theory with emphasis on accounting for fixed assets, intangibles, corporate capital structure, long term liabilities and investments.
- 313. INTERMEDIATE ACCOUNTING III (5). Pr., AC 312, a GPA of 2.5 or better in AC 311 and 312 and a GPA of 2.7 or better in all accounting courses taken. Continuation of accounting principles and theory. Emphasis on pension costs, leases, analysis of financial statements and funds flow, segment reporting and interim reporting.
- INCOME TAX ACCOUNTING (5). Pr., AC 311. Interpretation of the regulations, preparation of returns and the keeping of accounting records for tax purposes.
- BUSINESS LAW FOR ACCOUNTANTS (5). Pr., AC 312. Business law applied to the environment and applications of accountancy,
- STUDENT INTERNSHIP PROGRAM (1-10). Pr., junior standing and selection by the faculty committee.
- 415. ACCOUNTING INFORMATION SYSTEMS (5). Pr., MN 314 and AC 417. Introduction to accounting information systems, including manual and computerized operations. Emphasis on documentation and controls for the various accounting cycles. Applications of Lotus and dBase software to accounting problems are involved.

#### Aerospace Engineering

- 416. AUDITING (5). Coreq., AC 415 and senior standing. Principles of auditing including auditing standards, ethics, legal liability, objectives, controls, evidence, planning, sampling concepts, credit reports, audit reports and other reports.
- COST ACCOUNTING (5). Pr., AC 312. Accounting principles and procedures involved in job-order, process and standard cost accounting.
- 470. HONORS READINGS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- 472. HONORS THESIS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- SPECIAL PROBLEMS. (1-10). Pr., AC 313 and senior standing. Advanced individual research and study of accountancy under guidance of a faculty member. S-U Grading.
- 499. SEMINAR IN CURRENT ACCOUNTING TOPICS (1). Pr., graduating seniors. The current literature, problems and controversies affecting the accounting profession.

### Aerospace Engineering (AE)

Professors Cochran, Head, Cutchins and Williams Associate Professors Burkhalter, Cicci, Foster, Jenkins and Spring Assistant Professors Barrett, Gross, Hartfield and Lundberg

General Curriculum, CLA, students (those with undeclared major) may enroll only with departmental consent.

- 302. AIRLOADS (4): LEC. 3, LAB. 3. Pr., ME 340. Application of the basic equations of fluid dynamics to the prediction of pressure distribution, wing loading and hinge moments. Propeller design and selection.
- 303. THEORETICAL AERODYNAMICS I (5), Pr., ME 340. Fundamental analysis of aerodynamics and potential flow theory. Correlation of potential flow theory with experimental results.
- 304. THEORETICAL AERODYNAMICS II (4). LEG, 3, LAB. 3. Pr., AE 303. Compressible fluids, first and second laws of thermodynamics; one-dimensional flow with area changes, friction and heat transfer, mach waves; Prandtl-Meyer flow, oblique and normal shock waves, characteristics, supersonic nozzle design; linearized compressible flow and airfoils in supersonic flow.
- 305. FLIGHT PERFORMANCE (3). Pr., AE 302. Equations of motion and solution techniques for vehicle performance analysis including effects of propulsion system and aerodynamic variations.
- 307. AEROSPACE STRUCTURES I (5). LEG. 4, LAB. 3. Pr., EGR 207. Basic structural analysis. Shear and bending in monocoque structures. Deflections of beams and frames. Column and plate buckling. The laboratory portion is devoted to experimental techniques in stress analysis.
- AEROSPACE ANALYSIS (3). Pr., MH 265. Linear and non-linear systems, linearization procedures
  and linear systems analysis techniques. Other special techniques as required by advanced courses.
- 311. AEROSPACE MATERIALS (3). Nomenclature, coding systems, physical and structural properties, applications and fabrication techniques as applied to aerospace materials.
- 326. FUNDAMENTALS OF AEROSPACE DYNAMICS (3). Pr., AE 310, EGR 235, Dynamics of aerospace vehicles using moving reference frames. Introduction to small oscillation theory, dynamics of rigid bodies, Lagranges Eqs. Provides the background for further studies in vibrations, flight dynamics and space flight mechanics.
- 332. ASTRODYNAMICS I (3). Pr., AE 326 or departmental approval. Geometry of the solar system, detailed analysis of two-body dynamics and introduction to artificial satellite orbits; Hohmann transfer and patched conics for lunar and interplanetary trajectories. Elements of orbit determination.
- AEROSPACE SYSTEMS ANALYSIS (3). Pr., AE 310, 326. Modeling of dynamic systems, linearization, stability of linear systems, time response performances.
- STATIC STABILITY AND CONTROL (4), LEC. 3, LAB. 3. Pr., AE 302. Introduction to static stability
  and control of flight vehicles including laboratory techniques for determination of stability parameters.
- VISCOUS AERODYNAMICS (3). Pr., AE 304. Theoretical background essential to a fundamental understanding of laminar and turbulent boundary layers and their relations to skin friction and heat transfer.
- 409. AEROSPACE STRUCTURES II (5). LEC. 4, LAB. 3, Pr., CSE 120 or equivalent knowledge of FOR-TRAN programming, AE 307, 310. A continuation of AE 307. An introduction to the finite element method. The laboratory portion is devoted to solution of structural problems on the digital computer.
- 415. JET PROPULSION (5). LEC. 4, LAB. 3. Pr., AE 304. Internal aerodynamics and thermodynamics of rockets and air-breathing jet engines. Jet nozzles. Detailed analysis of flow through turbojet compressors, combustors and turbines.

- 447. AEROSPACE DESIGN I (3). LEC. 2, LAB. 3. Pr. AE 304, 305, 307, 332 and 339. Application of the design process with emphasis on development of creative thinking and team efforts. An investigation of a current aerospace problem which results in the presentation of oral and written technical reports. A three-guarter sequence with AE 448 and 449.
- 448. AEROSPACE DESIGN II (3). LEC. 2, LAB. 3. Pr., AE 447. A continuation of AE 447.
- 449. AEROSPACE DESIGN III (3). LEC. 2, LAB. 3. Pr., AE 448. A continuation of AE 448.
- 479. HONORS THESIS (1-6). Pr., department head approval. Individual student endeavor consisting of directed research and writing of honors thesis. (AE Honors Program students only. May be repeated once for a maximum of 6 total credit hours.)
- SPECIAL PROBLEMS. (1-5 CREDIT HOURS TO BE ARRANGED). Pr., departmental approval. Not open to graduate students.

- 501. ADVANCED THREE-DIMENSIONAL AERODYNAMICS (3-5 CREDIT HOURS TO BE AR-RANGED). Pr., AE 304 and departmental approval. Advanced concepts in the application of aerodynamic principles to finite wings and bodies, thickness effects, interference effects and computer simulation.
- 508. INTRODUCTION TO COMPUTATIONAL FLUID DYNAMICS (5). Pr., AE 304. An introduction to the application of modern numerical and computational techniques to problems arising in fluid dynamics. Emphasis is on solving practical problems and understanding the basic physical phenomenon involved.
- 509. COMPUTER-AIDED ANALYSIS OF AEROSPACE STRUCTURES (3) LEC. 3. Pr., AE 409 or equivalent. Application of interactive computer-aided techniques to the analysis of aerospace structures.
- 514. HYPERSONIC AERODYNAMICS (3). Pr., AE 304. Introduction to hypersonic aerodynamics. Development of hypersonic methods such as shock-expansion waves, local surface inclination techniques and approximate theories. Applications to problems in hypersonic flow regime.
- ROCKET PROPULSION I (3). Pr., AE 415. Detailed analysis of the thermodynamics, gasdynamics and design of liquid-propellant rockets.
- 517. ROCKET PROPULSION II (3). Pr., AE 415. Design and performance analysis of solid-propellant rocket motors with emphasis on internal ballistics.
- DYNAMIC SIMULATION (3). Pr., AE 326. Computer techniques applied to the analysis of aerospace engineering problems using analog and hybrid computers and the digital problem-oriented language Advanced Continuous Simulation Language (ACSL).
- 521. FLIGHT VEHICLE STRESS ANALYSIS (3). Pr., AE 307. Stress analysis related to aircraft, missile and space structures.
- 522. AEROSPACE APPLICATIONS OF COMPOSITE MATERIALS (3). Pr., AE 311. Reinforcement and matrix materials, manufacturing techniques, laminated composite and structural joint design in aerospace structures.
- 528. SPACE PROPULSION SYSTEMS (5). Pr., AE 415. Introduction to reaction engines for use in outer space vehicles. Power requirements for space missions, nuclear power systems, ion engines, magnetohydrodynamics and plasma accelerators and photonic engines.
- 529. VIBRATION AND FLUTTER (4). Pr., AE 326, 409. Free, forced and damped vibration of single and multiple degree-of-freedom systems; introduction to vibration of continuous systems; introduction to flutter theory; introduction to modal testing; applications in aerospace.
- 533. ASTRODYNAMICS II (3). Pr., AE 332. Elements of general perturbation theory; n-body formulation and introduction to 3-body problem; introduction to powered flight analysis and space flight guidance.
- ELEMENTS OF V/STOL FLIGHT (3). Pr., AE 303 or departmental approval. Analysis of methods for generating high lift at low vehicle forward speeds.
- ROTARY WING AERODYNAMICS (3). Pr., AE 303. Aerodynamics and flight characteristics of rotary wing aircraft.
- 541. DYNAMIC STABILITY AND CONTROL (3). Pr., AE 334, 339. Derivation of the kinematic and dynamic equations used to describe the motions of aircraft. Analysis of the stability of steady state flight conditions. Response of aircraft to actuation of controls.
- 542. AUTOMATIC STABILITY AND CONTROL (3). Pr., AE 541. Principles and techniques of automatic control of aircraft and missiles. Effects on design variables.
- 543. FLIGHT SIMULATION (3). Pr., AE 541 and departmental approval. Time domain simulation to the nonlinear six-degree-of-freedom motions of aircraft. Models for aerodynamics, propulsion and control systems. Special computer techniques applied to the generation of various flight profiles.

- 545. MISSILE AERODYNAMICS (3). Pr., AE 304. Aerodynamics of slender wing-body configurations for the low supersonic, moderate hypersonic and Newtonian continuum flow regimes. Linear and nonlinear effects are considered as well as interference effects. Application to missile performance and stability for certain flight profiles.
- 580. ENGINEERING LAW AND ETHICS (3). Pr., senior standing: Addresses the role of law in the manufacture of a product. Includes legal issues of contracts, product liability, workers' safety and environmental control. Considers ethical issues which may confront designers and engineers.

## Aerospace Studies (AF)

Professor Butler, Head Assistant Professors Colter, Hulsey and Smith

- 101-102-103. THE AIR FORCE TODAY (1-1-1). LEC. 1, LAB. 1. Organization and mission of the U.S. Air Force. Introduction to the total force concept, major commands, life on an Air Force base and career opportunities.
- 201-202-203. THE DEVELOPMENT OF AIR POWER (1-1-1). LEG. 1, LAB. 1. Air power from balloons and dirigibles through the jet age; a historical review of air power employment in military and non-military operations in support of national objectives; and a look at the evaluation of air power concepts, doctrine and technological change.
- 301-302-303. AIR FORCE LEADERSHIP AND MANAGEMENT (3-3-3), LEC. 3, LAB. 1. Practical applications of military briefings and writing; study of leadership principles, motivation and techniques, and group dynamics to provide fundamental skills for junior officers entering the active duty Air Force.
- 401-402-403. NATIONAL SECURITY FORCES IN CONTEMPORARY AMERICAN SOCIETY (3-3-3). LEC. 3, LAB. 1. Examination of the American National Security Policy and Process, how it is formulated and implemented, factors that influence it and how it is changing with current events. Includes the military's role in society, civilian control of the military and Total Quality Management. Prepares students for transition to active duty.

# Agricultural Economics and Rural Sociology (AEC) (RSY)

Professors Johnson, Head, Adnan, Bailey, Clonts, Dunkelberger, Evans, Hardy, Howze, Kinnucan, Martin, Molnar and Strawn Alfa Eminent Scholar Taylor

Associate Professors Crews, Duffy, Fowler, Hatch, Jolly, Novak, Prevatt, Simpson and Young Assistant Professors Goodman, Nelson and Traxler

# AGRICULTURAL ECONOMICS (AEC)

- AGRICULTURAL ECONOMICS I (5). Economic principles with emphasis on farm-related production, marketing, prices, consumption, taxation, credit, finance, public policies and tenure. Treats utilization of land, labor and capital. Credit not allowed in this course and EC 200.
- AGRICULTURAL ECONOMICS II (5). Continuation of economic principles with emphasis toward microeconomic concepts relating to farm firm. Credit not allowed in this course and EC 202.
- 210. MICROCOMPUTER APPLICATIONS IN AGRICULTURE (3), LEC. 2, LAB. 2. Introduction of microcomputer technology: hardware including microprocessor, display, keyboard, data storage and retrieval, printer and communication options; software including languages, electronic spreadsheet, word processing, data-based management and programmed products; and interface with data source and processing systems. (Seating priority given to College of Agriculture students, then by class standing.)
- 301. AGRICULTURAL MARKETING (4). Pr., AEC 202 or equivalent. Principles and problems in marketing farm products. Analysis of marketing functions, services and costs; reducing costs and improving marketing efficiency. Marketing methods and distribution channels of major farm commodities. Market institutions and operation.
- 302. FARM RECORDS AND TAX MANAGEMENT (3). Types and uses of farm records and accounts with emphasis on analyzing records to improve net farm income. Interpretation of income tax regulations and preparation of farm tax returns with emphasis on tax management.
- 303. AGRICULTURAL COOPERATIVES (3). Principles and problems of organizing and operating farmers' cooperative buying and selling associations.
- AGRICULTURAL FINANCE (4), Pr., AEC 202 and 210 or equivalents. Economic problems and policies in financing agriculture.
- 305. FARM APPRAISAL (3). Theory of land values; techniques on farm land and building appraisals for different purposes; relationships of land use, buildings, land titles, farm prices, taxes and interest rates to land values; evaluation of appraisal methods and forms currently in use.

### Agricultural Economics and Rural Sociology

- AGRICULTURAL LAW (4). Legal environment of agriculture. Recognition of legal problems associated with property ownership, contracts, torts, financing, estate planning and environmental controls and restrictions.
- 399. AGRICULTURAL BUSINESS AND ECONOMICS INTERNSHIP (1-4). S/U ONLY. (MAY BE TAKEN FOR TOTAL OF 8 HRS.) Pr., departmental approval. To provide practical job experience under joint supervision of an employer and the department. Internships may be taken in a variety of agricultural business firms and agencies including finance, farm supply, production, marketing and sales and government agencies. Training will prepare student for career employment.
- 490. UNDERGRADUATE SEMINAR (1). LEC. 1. Pr., junior standing. Pass-fail basis. Current developments in Agricultural Economics; the role of Agricultural Economics in the general economy.
- 491. HONORS READING AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program and junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with the consent of the Honors Advisor. Special topics of an undergraduate nature pertinent to agricultural economics.
- 492. HONORS THESIS (1-6). Pr., admission to University Honors Program and junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with the consent of the Honors Advisor. Individual student endeavor consisting of directed research and writing of honors thesis.
- 499. DIRECTED STUDIES IN AGRICULTURAL ECONOMICS (1-4). Pr., departmental approval, junior standing. Individualized work and study in consultation with faculty member on subject of mutual concern. May include directed readings, research, analysis of an employment experience or a combination. Employment experience with a variety of agribusinesses and agencies may serve as the focus.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 501. FARM MANAGEMENT (5). Pr., AEC 202 and 210 or equivalents. Principles of economics applied to agriculture, uses of farm records to improve management of the farm; developing enterprise budgets and use in preparing a profit-maximizing farm plan.
- 503. AGRICULTURAL PRICES (4). Pr., AEC 202, MH 161 and MN 274, DMS 215 or equivalent. Principles and factors in the pricing process with special reference to agricultural products and markets. Functions of prices and principles of supply and demand in price determination. Introduction to statistical estimation of price and demand relations.
- 505. AGRICULTURAL POLICY (3). Pr., AEC 202 or equivalent. Concepts, objectives and operation of public policies affecting agriculture. Development of agricultural policies in the United States.
- 509. RESOURCE ECONOMICS (4). Pr., AEC 202 and 210 or departmental approval. Principal economic and institutional factors affecting humans and their use of land. Supply, demand and future requirements for land. Property rights, land use planning, zoning, taxation and other social controls affecting land utilization.
- 510. AGRICULTURAL BUSINESS MANAGEMENT (5). Pr., AEC 202 and 210 or equivalents. Principles and problems in acquiring, organizing and operating successful agricultural businesses, capital requirements, factors affecting location and growth and measures of technical and economic efficiency in organization and operation; practices in buying, pricing and merchandising; management problems and policies in financing, personnel and public relations.
- 512. ECONOMIC ASPECTS OF WATER RESOURCES MANAGEMENT (4). Supply, demand and use of water resources including economic, legal and political dimensions. Economics of management of water resource use and conservation in terms of present and future supplies and needs. Public and private water resources will be considered.
- 530. WORLD AND U.S. AGRICULTURAL TRADE (4). Pr., AEC 200 or equivalent. Theory and significance of international trade, world distribution of agricultural production and trade, important issues and policies, documentation, mechanics and influence of exchange rates.

## RURAL SOCIOLOGY (RSY)

- STATISTICS (5), Pr., SOC 201. Basic statistical concepts, measures and techniques used in sociological reports and research.
- 261. INTRODUCTION TO RURAL SOCIOLOGY (3). Basic sociological concepts and principles as applied to life in the rural community. Special attention given to the culture, social organization and social problems of rural people in the United States and in the South in particular. Credit not allowed in this course and SOC 201.
- AGRICULTURE AND SOCIETY (5). Values and conflicts associated with technological and other changes in farming, rural communities and the food system.
- 362. COMMUNITY ORGANIZATION (4). General elective. Understanding the principles of community organization and effective citizenship. Survey of institutions, organizations and agencies interacting to meet community needs.

### Agricultural Engineering

- METHODS OF SOCIAL RESEARCH (5). Pr., RSY 261 or SOC 201. Principal methods of data collection and analysis in sociological research.
- 371. APPLIED RESEARCH METHODS AND PROGRAM EVALUATION (3). Basic social science research techniques used in needs assessment studies and program evaluations. Fundamentals of social surveys, field experiments, demographic analyses and applications, principles and strategies of evaluation. Credit not allowed in this course and in RSY or SOC 370.
- 490. SENIOR SEMINAR (1), Pr., senior standing, S/U grading only. Current developments in the social sciences as applied to agriculture and private/public agencies serving rural people.
- 498. DIRECTED FIELD EXPERIENCE (5). Structured involvement in an agency or organization serving rural counties and/or small communities under joint supervision of agency personnel and university faculty. Regular faculty-student conferences to discuss, evaluate and interpret experience.
- 499. DIRECTED STUDIES IN RURAL SOCIOLOGY (1-5). Pr., departmental approval, junior standing, individualized work and study in consultation with faculty member on subject of mutual concern. May include directed readings, research, analysis of an employment experience or a combination. May be used to complement and expand on an employment experience.

### ADVANCED UNDERGRADUATE AND GRADUATE

- 541. EXTENSION PROGRAMS AND METHODS (5). An in-depth consideration of extension orientation in adult and continuing education in U.S. and developing nations. The Cooperative Extension Service is analyzed as an educational institution. Fundamental steps in program development and evaluation.
- 561. RURAL SOCIOLOGY (5). Pr., RSY 261 or SOC 201. Theories and conceptual approaches to rurality. Rural-urban differences in demographic composition; occupational structure; attitudes and values of rural people; regional cultures; and the role of agriculture, mining, forestry, fishing, manufacturing and service industries in rural life with attention to the nature of change.
- 564. SOCIOLOGY OF COMMUNITY DEVELOPMENT (5). Pr., RSY 261 or SOC 201, Principles of applied social change at the community level in the U.S. citizen participation in community affairs, impacts of economic changes on small communities; role of networks, neighborhoods and local institutions in responding to community problems.
- 565. SOCIOLOGY OF NATURAL RESOURCES AND THE ENVIRONMENT (5). Overview of changing attitudes and institutional responses to the use and exploitation of natural resources. Conservation, preservation and pollution control are treated as three primary sources of environmental concern. Global trends in population growth, energy availability and environmental degradation are examined.

# Agricultural Engineering (AN)

Professors Turnquist, Head, Curtis, Donald, Hill and Johnson
Associate Professors Flood, Koon, Kutz, Ogburn, Rochester Tyson and Yoo
Assistant Professors Taylor and Wilholt
Affiliate Professors Burt and Shafer
Affiliate Associate Professors Bailey and Raper
Affiliate Assistant Professors McDonald and Way

### COURSES FOR ENGINEERS

- 101. INTRODUCTION TO AGRICULTURAL AND FOREST ENGINEERING (1). LEC. 1, LAB. 2. S/U graded. Winter. Perspectives on the agricultural and forest engineering profession. Creative design and the engineer's approach to problem solving. Introduction to the technical specialties of engineering for agriculture and forestry and career opportunities (same as FYE 101).
- 130. INTRODUCTION TO ENGINEERING DESIGN FOR BIOLOGICAL SYSTEMS (1), LAB. 3. Spring. A supervised engineering project to design components and/or systems to solve a real problem in an agricultural or forestry related industry. Open only to students classified as 01 or 02. (Same as FYE 130).
- 201 ENGINEERING PRINCIPLES IN BIOLOGICAL SYSTEMS (5), LEC. 4, LAB. 3. Pr., MH 161. Coreq., CSE 120. Fall. Engineering concepts and principles applied to agricultural and forest problems. Creativity and design. Unit operations of agricultural and forest engineering (same as FYE 201).
- 311. MOBILE EQUIPMENT DESIGN FUNDAMENTALS (4). LEC. 3, LAB. 3. Pr., EGR 301, 321, MH 265 and AN 201 or departmental approval. Winter. Basic engineering analysis, synthesis and design concepts applied to mobile field equipment and machines for agricultural, forestry and industrial use. Includes engine performance, power transmission, traction mechanics, mechanics of machines and machine-operator interface and safety. (same as FYE 311).
- 313. LAND AND WATER CONSERVATION ENGINEERING (3). LEC. 2, LAB. 3. Pr., AN 315. Spring., Rainfall-runoff relationships. Soil erosion and its prediction and control. Hydraulic structures and open channel flow. (Same as FYE 313).

- 315. PROCESS ENGINEERING FOR BIOLOGICAL SYSTEMS (5). LEC. 4, LAB. 3, Pr., AN 201, CE 310, EGR 301. Winter. Design principles and equipment selection for crop, food and feed storage, preservation and manufacturing. Thermal processing, curing, drying, refrigeration, materials handling, pumps, fans and storage processes. (Same as FYE 315).
- 316. ELECTRICAL SYSTEMS IN AGRICULTURE (4). LEC. 3, LAB. 3. Pr., AN 201, EE 302, 303. Spring. Application of electrical power, equipment and control devices to agricultural systems. Emphasis on safe and efficient power distribution, motor selection and performance and theory and performance of sensing and control devices.
- 317. ENVIRONMENTAL CONTROL FOR BIOLOGICAL SYSTEMS (3). LEC. 2, LAB. 3. Pr., AN 201, 315. Spring. Functional requirements and design of animal shelters, greenhouses and agricultural storage buildings. Emphasis on environmental control systems and energy management.
- 401. FOREST MACHINE DESIGN (3). LEC. 3. Pr., AN 311, EGR 207. Spring. Engineering analysis and design of forest machinery. Includes engineering characteristics of logs related to machine design, site preparation and planting equipment review, felling equipment design, loader kinematics, cable systems mechanics and machine reliability. (Same as FYE 401.)
- 402. FOREST TRANSPORTATION SYSTEMS DESIGN (3). LEC. 2, LAB. 3. Pr., FYE 304 and 313. Fall. Design of the forest transportation system including preconstruction planning, horizontal and vertical alignment, earthwork volume and distribution analysis and drainage control stuctures for the road network and specifications for the vehicles that will use the network. (Same as FYE 402.)
- APPLIED STRUCTURAL ANALYSIS AND DESIGN (3). LEC. 2, LAB. 3. Pr., EGR 207. Fall. Analysis
  and design of structural systems of agriculture and forestry. (Same as FYE 403.)
- 414. IRRIGATION SYSTEM DESIGN (3). LEC. 2, LAB. 3. Pr., AN 313. Fall. Theory and design of irrigation systems. Emphasis on sprinkler and trickle systems, including solid set, traveler, center pivot and drip.
- 418. WASTE MANAGEMENT AND UTILIZATION SYSTEMS (4). LEC. 3, LAB 3. Pr., AN 201, 313, 315. CH 104, 104L, BI 101. Fall. Theory and design of physical and biological treatment and processing systems for livestock waste management and utilization. The established technologies of lagoons and land application systems and the emerging technologies of energy production and refeeding are covered.
- 430. ENGINEERING DESIGN FOR BIOLOGICAL SYSTEMS I (4). LEC. 3, LAB. 3. Pr., AN 403, senior standing, departmental approval. Winter. Design of equipment, structures and systems for food, feed, fiber, forest products and animal production and processing utilizing engineering principles. (Same as FYE 430.)
- SPECIAL TOPICS (2-5). (CREDIT TO BE ARRANGED.) Pr., departmental approval. May be taken more than one quarter for a maximum of 10 quarter hours. (Same as FYE 490.)
- 491. HONORS READING AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program and junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with the consent of the Honors Advisor. Special topics of an undergraduate nature pertinent to agricultural engineering.
- 492. HONORS THESIS (1-6). Pr., admission to University Honors Program and junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with the consent of the Honors Advisor. Individual student endeavor consisting of directed research and writing of honors thesis.

#### COURSES FOR NON-ENGINEERS

- 250. WEATHER, CLIMATE AND AGRICULTURE (4). LEC. 3, LAB. 3. An introduction to the elements of atmospheric science and how they combine to create variations in world climate. The relation of climate and climatic variation to agriculture with emphasis on the available sources of climatic information.
- SOIL AND WATER TECHNOLOGY (4), LEC. 3, LAB. 3. Fall. Technical application of soil and water resources management. Irrigation system planning and equipment selection.
- 351. AGRICULTURAL MACHINERY TECHNOLOGY (4). LEC. 3, LAB. 2. Fall and Spring. Agricultural machinery: utilization, management, selection and economic justification.
- TRACTOR AND ENGINE TECHNOLOGY (4). LEC. 3, LAB. 2. Winter. Tractors and engines. Operation, luels used, size selection, utilization and economic justification.
- FARM BUILDINGS TECHNOLOGY (4). LEC 4. Winter. Selection of materials, methods of construction, functional needs and control of environment of modern agricultural buildings.
- 354. AGRICULTURAL PROCESSING TECHNOLOGY (4). LEC 3, LAB. 3. Agricultural processing systems: includes storing, drying, pelleting, mixing and automatic materials handling systems.
- 356. LANDSCAPE AND GOLF COURSE IRRIGATION (4). LEC. 3, LAB. 3. Winter. Includes theory and design of landscape and golf course irrigation both sprinkle and trickle.
- 357. ENVIRONMENTAL QUALITY AND AGRICULTURE (4). LEC., 3, LAB. 3. Pr., CH 104. Basic introduction to pollution, measurement, nutrient cycles in nature, point and non-point source pollution, treatment and utilization of animal wastes and energy recovery from agricultural residues.

- 501. AGRICULTURAL POWER AND MACHINERY DESIGN (3). LEC. 2, LAB, 3. Pr., AN 311. Design of equipment and systems to apply engineering principles to solutions of agricultural power and machinery problems. Functional requirements, safety, reliability, service conditions, power measurement, useful life and creative design are combined to obtain designs for agricultural machine and power units.
- 503. SOIL AND WATER ENGINEERING II (3). LEC. 2, LAB. 3. Pr., AN 313 or departmental approval. Theory and design considerations of selected topics in irrigation, erosion, non-point source pollution, drainage or upstream flood control.
- 505. ELECTRICAL AND PROCESSING SYSTEMS DESIGN (3). LEC 3. Pr., AN 315, 316. Design and layout of material handling systems, fundamental theory of particle movement, study of sensing and feed-back systems to include automatic controls and servo-mechanisms.
- AGRICULTURAL STRUCTURE DESIGN II (3), LEC. 3. Pr., AN 317, 403. Functional requirements and design of animal shelters and agricultural storage buildings.
- 509. HYDRAULIC CONTROL SYSTEMS (4). LEC. 3, LAB. 3. Pr., CE 310 or ME 340. Fall. Design and analysis of hydraulic systems. Application of sizing of hydraulic pumps, motors, valves and accessories for industrial and mobile systems. Laboratory emphasizes hands-on testing and functional analysis of components and systems, including measurement of pressure, flow and power. (Same as FYE 509.)
- 530. ENGINEERING DESIGN FOR BIOLOGICAL SYSTEMS II (4). LEC. 2, LAB. 6. Pr., AN/FYE 430 and departmental approval. Spring. A supervised engineering design project to design components and/or systems to solve a real problem in an appropriate industry. Utilization of many engineering principles is required (Same as FYE 530).
- 555. PRINCIPLES OF FOOD ENGINEERING TECHNOLOGY (5). LEC. 4, LAB. 3. Pr., MH 160. PS 200. Engineering concepts and unit operations used in processing and handling of food products.
- SPECIAL TOPICS. (CREDIT TO BE ARRANGED.) (2-5). Pr., departmental approval. May be taken more than one quarter for a maximum of 10 quarter hours. (Same as FYE 590.)
- 593. PRACTICUM (1-5), MAY NOT EXCEED 10 HOURS CREDIT. NOT OPEN TO MAJORS IN AGRI-CULTURAL ENGINEERING. Provides students with experience in Agricultural Engineering Technology closely relating theory and practice, usually carried on simultaneously.

# Agronomy and Soils (AY)

Professors Touchton, Head, Ball, Bransby, Burdett, Dane, Dickens, Everest, Hairston, Hajek, Hartzog, Henderson, Hood, Walker and Weaver Associate Professors Adams, Mask, Mitchell, Mosjidis, Mullins, Odom, Patterson, Van Santen, Wehtje and Wood Assistant Professors Entry, Guertal, Miller, Monks and Shannon Adjunct Professors Chien and Rogers Adjunct Associate Professors Edwards, Reeves and Sikora

Adjunct Assistant Professors Bostick and Torbert Extension Specialists Burmester and Delaney

- CROP PRODUCTION (5). LEC. 4, LAB. 2. Fall, Winter. Production of crops used by man for food, feed and fiber including identification of crop plants, cultural practices and processing.
   GENERAL SOILS (5). LEC. 4, LAB. 2. Pr., CH 105 and 105L or CH 207 or CH 203. Winter, Spring.
- Formation, classification, composition, properties, management, fertility and conservation of soils in relation to the growth of plants.

  305. GENERAL SOILS (5), LEC. 4, LAB. 2, Pr., CH 103-104, Winter, Formation, classification, composi-
- tion and properties of soils and their influence on vegetative growth and development on forest lands.

  Open only to students in Forestry.
- GENERAL SOILS (5), LEC. 4, LAB. 2. Pr., CH 103-104. Fall, Spring. The general field of soils including genesis, classifications and fertility.
- EARTH SCIENCE (5). Materials of the earth; forces that shape and sculpture the earth's surface, including weathering, water, soil formation and erosion; soil geography; and historical geology. (Not to be substituted for AY 304, 305 and 307.)
- PRINCIPLES OF WEED SCIENCE (5). LEC. 4, LAB. 2. Pr., BI 102 and CH 104. Fall. Weed identification and biology, methods of weed management, and classification of herbicides and how they are used in weed control.
- 315. TURFGRASS MANAGEMENT (5). LEC. 4, LAB. 2. Pr., BI 102. Fall. The management of recreational and home area turfgrass will be studied and will include the establishment and maintenance of turf and the effect of light, traffic, soil fertility and water on its growth.

- 390. AGRONOMY AND SOILS INTERNSHIP (5). Pr., departmental approval. S/U graded. To provide the student with practical experience under the supervision of an approved employer and the department. Internship may be in the areas of production, business, furl or science.
- 399. PROBLEMS IN WEED SCIENCE (1), LEC. 1. Pr., departmental approval. Fall. Conferences, problems and assigned reading in weed science.
- 400. ADVANCED CROP PRODUCTION (5). LEC. 4, LAB. 2, Pr., junior standing. Winter. Application, expansion and integration of principles from undergraduate agricultural, biological and physical sciences courses in the management of crop production systems with emphasis on discussion and problem-solving.
- 401. PRINCIPLES OF FORAGE PRODUCTION (5). LEC. 4, LAB. 2. Pr., junior standing, Fall and Spring. Grass and legume forage crops. The crops are considered from the standpoint of (a) pasture crops. (b) hay and silage crops, (c) soil improving crops.
- SOIL JUDGING (3). LEC. 1 LAB. 4. Pr., AY 304, 305 or 307. Fall. Description, evaluation and interpretation of soil profile characteristics.
- 422. FACTORS LIMITING CROP PRODUCTION (3). LEC. 3. Winter. Factors influencing the production of crops including climate, water, soils. The role of plant and animal pests and the limitations created by the attitudes and mores of people.
- 470. HONORS READING AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program and junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with the consent of the Honors Advisor. Special topics of an undergraduate nature pertinent to agronomy.
- 471. HONORS THESIS (1-6), Pr., admission to University Honors Program and junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with the consent of the Honors Advisor. Individual student endeavor consisting of directed research and writing of honors thesis.
- 480. ISSUES IN ANIMAL AGRICULTURE (2). LAB. 4. Pr., junior standing, ADS 200, COM 100 or equivalent. Winter. Issues affecting animal agriculture, dealing with concerns of consumers and activists, involvement in public debate and the political process.
- SENIOR SEMINAR (1). LEC. 1. Pr., junior standing. Winter. S/U graded. Current developments and the role of crop and soil sciences.
- 499. SPECIAL PROBLEMS (1-5) (CREDIT TO BE ARRANGED.) Pr., departmental approval, junior standing. Not open to graduate students. Students will work under the direction of a staff member on special problems in crop, soil or weed science.

- 502. SOIL FERTILITY (5). LEC. 5. Pr., AY 304, 305 or 307. Winter. Lectures, demonstrations and problems illustrate principles of soil fertility as related to fertilizer practices and crop production. An advanced course, required of all students majoring in Agronomy and Soils. Either AY 502 or AY 507, but not both, may be used to satisfy the minimum requirement for the Master's degree.
- 506. SOILS AND ENVIRONMENTAL QUALITY (4). LEC. 4. Pr., AY 304, 305 or 307. Spring. Role of soils in biogeochemical cycling of major elements and compounds of environmental concern; interactions of pollutants with soils and aquatic and atmospheric environments; methods to minimize or correct pollution; risk assessment.
- 507. SOIL MANAGEMENT (5). LEC. 5. Pr., AY 304, 305 or 307. Summer. Physical, chemical and biological properties of soils and their management. Advanced course in Agricultural Education. Either AY 502 or 507, but not both, may be used to satisfy the minimum requirement for the Master's degree.
- 508. SOIL RESOURCES AND CONSERVATION (5). LEC. 4, LAB. 2. Pr., AY 304, 305 or 307. Fall. Soils as a natural resource for land-use planning; their classification and management for crop production, recreation and urban and industrial development.
- SEED PRODUCTION (3). Pr., AY 400 or 401. Winter, odd years. Methods and factors affecting production, storage and processing seed.
- 510. METHODS OF PLANT BREEDING (5), LEC. 4, LAB, 2, Pr., ZY 300. Spring. Genetic principles related to crop improvement including modes of reproduction, qualitative vs. quantitative traits, role of environment and heritability. Breeding methods including pedigree selection, backcross and recurrent selection.
- 515. SOIL MORPHOLOGY (5). LEC. 4, LAB. 2. Pr., AY 304, 305 or 307. Spring. Physical, chemical and mineralogical properties of soils are studied in relation to their classification for engineering and agricultural uses.
- 516. ADVANCED TURFGRASS MANAGEMENT (5). Pr., AY 304, 315, BY 306. Fall, odd years. Factors affecting the grass plant as a component of a dynamic turf community. Influence of soil chemical and physical conditions, management practices and climate will be discussed. Both theoretical and practical aspects of turf cultural practices will be discussed along with design and construction of athletic turf areas.

#### Animal and Dairy Sciences

- 517. CROP QUALITY (5) LEC. 5. Pr., AY 400 or 401. Spring. Quality of lood, feed and fiber crops are regulated by genetic potentials, environment, management and utilization.
- 519. SOIL INTERPRETATIONS FOR PLANNING (5). Pr., departmental approval. Characteristics that significantly affect soil response under various uses. (Not open to students in College of Agriculture or Agricultural Education.)
- 593. PRACTICUM (1-5). (MAY BE REPEATED NOT TO EXCEED 10 HOURS CREDIT.) Not open to majors in Agronomy and Soils. Provides students with experience in Agronomy and Soils closely relating theory and practice, usually carried on simultaneously.

## Animal and Dairy Sciences (ADS)

Professors Harris, Head, Daron, Frobish, Huffman, Jones, Kuhlers, McCaskey, McGuire, Moss, Parks, Schmidt and Smith

Associate Professors Bartol, Coleman, Cummins, Floyd, Gimenez, McCall, Mikel, Mulvaney, Muntifering, Owsley, Rahe, Ruffin, Van Dyke and Whittenburg
Assistant Professors Blaylock, Chiba, Davenport, Kriese, Payne and Rankins
Instructor Osborn

- ORIENTATION TO ANIMAL AND DAIRY SCIENCE (1), LEC. 1. Fall. S/U only. An introduction to the departmental programs and personnel. Job opportunities for the individual trained in Animal Science.
- 200. INTRODUCTORY ANIMAL & DAIRY SCIENCES (5). LEC. 4, LAB. 2. Fall, Spring. The importance of livestock to agriculture and to the nutrition of people. Livestock terminology, selection, reproduction, nutrition, management, marketing and species characteristics of beef cattle, swine, sheep and horses.
- 202. PRACTICAL LIVESTOCK MANAGEMENT TECHNIQUES. (2) LAB. 4. Pr., ADS 200. Fall, Winter, Spring, S/U only. Demonstration and practice of skills associated with animal care and management. Animal behavior patterns will be discussed and observed.
- LIVESTOCK PROMOTION AND MERCHANDISING (2). LAB. 6. Pr., ADS 200. Fall. Showing, fitting, public display, sales management and advertising as it relates to the promotion and merchandising of cattle, swine, sheep and horses.
- 206. INTRODUCTION TO HORSE MANAGEMENT AND TRAINING (3). LEC. 1, LAB. 4. Fall. An introduction to the management, training and enjoyment of horses.
- COMPANION ANIMAL MANAGEMENT (2). LEC. 2. Winter. Practical aspects of behavior, nutrition, breeding, reproduction, health, economics and management of dogs, cats and other animals generally considered to be human companions.
- COMMERCIAL MEAT MANAGEMENT (5). LEC. 4, LAB. 2. Spring. The importance of meat in the food service industry, including food safety, purchasing, cooking and meat in the diet. (Credit in ADS 370 precludes credit in ADS 270).
- 271. VALUE BASED ANALYSIS OF MEAT ANIMALS (4). LEC. 2, LAB. 4. Pr., ADS 200. Fall, Winter. Comparative evaluation of body composition and application of federal grading standards to determining relative value and price of live animals, carcasses and wholesale cuts.
- 315. HERD HEALTH MANAGEMENT (5). Pr., MB 300 and ZY 316 or equivalent. Spring. Prevention and control of the major diseases of farm animals and development of herd health programs.
- ANIMAL BIOCHEMISTRY AND NUTRITION (5). LEC. 5. Pr., CH 104, 203 or equivalent, BI 103. Fall, Winter, Principles of animal nutrition, biochemistry. Nutrients and their utilization by animals.
- 322. FEEDS AND FEEDING (4). LEC. 3, LAB. 2. Pr., ADS 321 or departmental approval. Winter, Spring. Characteristics of feedstuffs and general comments about their processing. Principles and practices of balancing and compounding of rations for beef and dairy cattle, horses, sheep, swine and pets.
- 330. INTRODUCTORY LIVESTOCK EVALUATION AND MARKETING (3). LAB. 6. Pr., ADS 271. Winter, Comprehensive study of live animal and carcass evaluation techniques used in selection and marketing of beef cattle, swine and sheep. The development of oral communication skills are emphasized.
- DAIRY CATTLE JUDGING (3). LAB. 6. Pr., ADS 200. Spring. Theory and practice in the selection of dairy cattle.
- 350. ANIMAL BREEDING (4), LEC. 3, LAB. 2. Pr., ZY 300. Winter Application of population genetics to the improvement of cattle, sheep and swine. Studies of different systems of selection and mating and their related efficiencies for livestock improvement.
- 351. LIVESTOCK SELECTION (4). LEC. 2, LAB. 4. Pr., ADS 350. Spring. Theory and practice in the use of applied genetics principles, performance records and visual appraisal in the selection and breeding of beef cattle, dairy cattle and swine.
- 360. GROWTH AND DEVELOPMENT OF FARM ANIMALS (4). LEC. 3, LAB. 2. Pr., ADS 200, 271, BI 103, Spring. Biology of prenatal and postnatal growth of meat animals emphasizing muscle, adipose and bone tissues. Application of concepts to improve rate, efficiency and composition of growth.

- 361. REPRODUCTIVE PHYSIOLOGY (5). LEC. 4, LAB. 2. Pr., ZY 251 or 316. Fall. Comparative anatomy, physiology and endocrinology of animal reproduction and lactation: techniques involved in the artificial insemination and pregnancy testing of farm animals. Applications of these principles to improving the efficiency of livestock.
- 362. ARTIFICIAL INSEMINATION OF FARM ANIMALS (2). LEC. 1, LAB. 2, Pr., ADS 361. Spring. Principles and practice of techniques in artifical insemination and reproductive management of farm animals.
- 370. MEAT SCIENCE (4). LEC. 3, LAB. 2. Pr., ADS 271 or departmental approval. Winter, Spring. Fundamentals of slaughter, processing, storage and merchandising of meat and meat products. Biochemical and physiological implications of nutrition, breeding and antemortem treatment on meat quality, curing and processing.
- UNDERGRADUATE SEMINAR (1). LEC. 1. Pr., junior standing. Spring. S/U only. Lectures and discussions on job opportunities by staff and guests.
- 401. BEEF PRODUCTION (4). LEC. 3, LAB. 2. Pr., ADS 271, 322, 350, 361 or departmental approval for non-majors only. Winter. Overview of the beef cattle industry. Develops modern concepts, ideas and methodology associated with the application of technology to the solution of problems related to reproduction, breeding, nutrition, management and use of facilities in a modern beef cattle enterprise.
- 403. DAIRY CATTLE PRODUCTION (4), LEC. 3, LAB. 2. Pr., ADS 271, 322, 350, 361 or departmental approval for non-majors only. Fall. Practical application and integration of nutrition, breeding, reproduction, selection, herd health, economics and management for efficient dairy production.
- 405. HORSE PRODUCTION (4). LEC. 3, LAB. 2. Pr., ADS 200, 322, 350, 361 or departmental approval for non-majors only. Spring. Practical application and integration of nutrition, breeding, reproduction, selection, herd health, economics and management for efficient horse production.
- SWINE PRODUCTION (4). LEC. 3, LAB. 2. Pr., ADS 271, 322, 350, 361 or departmental approval for non-majors only. Fall. Practical application and integration of nutrition, breeding, reproduction, selection, herd health, economics and management for efficient swine production.
- 409. SHEEP PRODUCTION (4). LEC. 3, LAB. 2. Pr., ADS 271, 322, 350, 361 or departmental approval for non-majors only. Winter, Application and integration of breeding and selection, nutrition, reproduction, health and marketing to achieve optimum lamb and wool production.
- 410. BEHAVIOR OF FARM ANIMALS (4), LEC. 3, LAB 2, Pr., ADS 361 or departmental approval, Spring, Basic information on behavior, its purpose and how it is measured is followed by an examination of eating, locomotive, sexual, aggressive, territorial, maternal and resting behaviors in pigs, sheep, cattle and horses.
- 430. ADVANCED LIVESTOCK JUDGING (2). LAB. 6. Pr., ADS 330 or departmental approval. Spring, Fall. May be repeated for a maximum of four hours credit. An advanced course in the principles and techniques of grading and selecting livestock based on visual criteria plus performance information.
- 431. ADVANCED MEAT JUDGING (2). LAB. 6. Pr., ADS 271 or departmental approval. Winter, Fall. May be repeated for a maximum of four hours credit. Practice in evaluation and grading of beef, pork and lamb carcasses and cuts. Development of communication skills and exposure to animal agriculture through training in local meat packing plants and intercollegiate competition.
- 432. ADVANCED ANIMAL EVALUATION AND MARKETING (2). LAB. 4. Pr., ADS 430 or 431 or departmental approval. Winter, Spring. May be repeated for a maximum of four hours credit, Live slaughter animal and carcass evaluation techniques used in marketing cattle, sheep and swine.
- 433. ADVANCED DAIRY CATTLE JUDGING (3) LAB. 6. Pr., ADS 333 or departmental approval. Fall. Advanced course in the selection of dairy cattle.
- 470. MEAT PROCESSING (4). LEC 3, LAB. 3. Pr., ADS 370. Fall. Principles of meat processing; portion control, restructured meat technology, curing reactions and sausage processing. Physical, sensory and biochemical properties of processed meat.
- 490. SPECIAL PROBLEMS (1-5). (CREDIT TO BE ARRANGED.) Pr., departmental approval, senior standing. Not open to graduate students. Students work under the direction of staff members on specific problems.
- 491. HONORS READING AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program and jurior or senior standing. May be repeated for a maximum of six hours. Open only to Animal Science students in the University Honors Program with the consent of the Honors Advisor.
- 492. HONORS THESIS (1-6). Pr., admission to University Honors Program and junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with the consent of the Honors Advisor.
- 495. INTERNSHIP IN ANIMAL AND DAIRY SCIENCES (5-15). Pr., departmental approval. S/U only.

 ADVANCED SWINE MANAGEMENT (5). LEC. 3, LAB. 4. Pr., ADS 407, junior standing, departmental approval. Spring. Management techniques, facility design and operation of modern swine production systems.

- 508. ADVANCED BEEF PRODUCTION (5). LEC. 4, LAB. 2. Pr., ADS 260, 320, 401. Knowledge of ADS 520 and AEC 210 helpful. Spring, alternate years. Practical application and integration of nutrition, hard health, purchasing, marketing, economics and management of beef cattle in stocker and feedlot enterprises. Labs include animal handling, feedlot management techniques and use of computers for decision-making and program analysis.
- 520. ADVANCED ANIMAL NUTRITION (5). LEC. 4, LAB. 2. Pr., ADS 322, CH 207. Spring. Nutrition of farm animals; the integration of animal physiology and nutrient metabolism with applied feeding practices used in animal production; discussion of recent nutritional developments.
- 565. PHYSIOLOGY OF LACTATION (3). LEC. 3. Pr., ADS 220 and ZY 316. Fall. The mammary gland, its structure and functions including uptake of precursors and the synthesis and secretion of milk.
- 593. PRACTICUM (1-5). (MAY BE REPEATED NOT TO EXCEED 10 HOURS CREDIT.) Not open to majors in Animal and Dairy Sciences. Provides students with experiences that closely relate theory and practice.

## Architecture (AR)

Professors Davis, Faust, Gwin, Mockbee, Orgen, Regan, Ruth and Zorr Associate Professors Braly, Burleson, Cook, Finn, Morgan, Nakhjavan, Setzer Assistant Professors Calvo, Garmaz, Pratt and R. Silberberg Visiting Assistant Professor Callott Instructors Engel, Hudgens, Keown and S. Silberberg

## ARCHITECTURE PROGRAM (AR)

- 100. INTRODUCTION TO CAREERS IN DESIGN AND CONSTRUCTION (3), Issues involved in the environmental design and construction professions and the nature of commitment to curricula in this field. Open to all students. Graded S/U.
- BASIC DESIGN (5) LEC. 2, STUDIO 8. Pr., acceptance into AR, ID or LA curriculum. Observing and understanding natural and built environments. Fundamental principles, methods and media of design.
- BASIC DESIGN (5), LEC. 2, STUDIO 8. Pr., AR 101. The conception and representation of ideas and the invention of form, with an emphasis on understanding materials.
- BASIC DESIGN (5), LEC. 2, STUDIO 8, Pr., AR 102. The detail and the fragment as basic components of, and analogues for, inventions in natural and built environments.
- 105. FREEHAND DRAWING (1). Pr., acceptance to AR, ID, LA curriculum.
- 106. PROJECTIVE GEOMETRY/ORTHOGRAPHIC (1). Pr., AR 101, 105.
- 107. AXONOMETRIC/OBLIQUE PROJECTION (1). Pr., AR 102, 106.
- 201-202-203. ARCHITECTURAL DESIGN (5-5-5) LEC. 2-2-2, STUDIO. 10-10-10. Pr., AR 103, MH 161. EH 110. Human needs are examined as the primary influences on the making of interior and exterior space, architectural form and physical function. Lectures emphasize architectural methodology, contextualism and structure parallel studio projects.
- 205. PERSPECTIVE (1). Pr., AR 103, 107.
- 206. COLOR MEDIA AND THEORY (1), Pr., AR 201, 205.
- 207. ANALYTIQUE: PRESENTATION AND COMPOSITION (1). Pr., AR 202, 206.
- MATERIALS AND METHODS OF CONSTRUCTION (3). Pr., AR 103. Introduction to materials and methods of construction and their integration in basic building types. Emphasis on wood and masonry.
- SYSTEMS AND CONSTRUCTION TECHNOLOGY (3). Pr., AR 230. Advanced materials and methods of construction with emphasis on steel and concrete.
- 270. HISTORY AND THEORY OF ARCHITECTURE INTRODUCTION (5). Pr., AR 202, 206. Building, landscape architecture, urbanism and professional practice in the Southeastern United States within the history of philosophy, science and the applied and social sciences.
- 301-302-303. ARCHITECTURAL DESIGN (6-6-6). LEC. 2-2-2, STUDIO. 12-12-12. Pr., AR 203, 261, 262, 263, PS 207. Theoretical, cultural and environmental issues are posed for consideration in the analysis of architectural design problems of moderate complexity. Lectures emphasize the relationship between conceptual aspects of architectural form and technical systems of building parallel studio projects. Enrollment is limited in third year sequence as determined by the Department of Architecture.
- PHOTOGRAPHY I (3), Pr., Open to AR, BSC, ID, IND & LA only, departmental approval. An exploration of the 35MM SLR carnera in black and white photography for personal expression and as a tool for design.
- PHOTOGRAPHY II (3), Pr., AR 320, departmental approval. Development of individual photographic skills and insights into understanding of surroundings.

- 360. APPRECIATION OF ARCHITECTURE (3). General elective. Pr., 2nd year standing. (Not open to AR-ID and LA students.) Architectural development with particular attention to American and contemporary examples. Illustrated lectures, reading, essays.
- 371. HISTORY AND THEORY OF ARCHITECTURE EUROPEAN ANTECEDENTS (3). Pr., AR 203, 207, 270. European traditions and theories of building and town design are surveyed utilizing historiographical and taxonomical norms created by the industrial democracies.
- HISTORY AND THEORY OF ARCHITECTURE SINCE 1750 (5). Pr., AR 301, 371. Building and town design in Europe and the Americas are investigated.
- 401. ARCHITECTURAL DESIGN (6). LEC. 2, STUDIO. 12. Pr., AR 303. Architecture and the urban condition is the primary theme in the design of buildings and spaces. Lectures emphasize urban issues, research methods, analysis and programming parallel studio projects of increasing complexity.
- 402. ARCHITECTURAL DESIGN (6). LEC. 2. STUDIO. 12. Pr., AR 401, BSC 315. Emphasis is on architectural design at a community scale. Lectures are conceived to facilitate the application of principles, techniques and research methods introduced in the prerequisite planning courses.
- 403. ARCHITECTURAL DESIGN (6). LEC. 2. STUDIO. 12. Pr., AR 402. Consideration given to architectural problems of advanced complexity, having significant impact on the urban environment. Lectures focus on contextual analysis, zoning, codes and programming.
- FIELD PRACTICE (3). Pr., AR 303 and departmental approval, Students may obtain academic credit for participation in learning experiences of a practical nature outside the normal curricular offenings. S/ U graded.
- 435. DESSEIN d' ARCHITECTURE (3). Pr., 3rd year standing. Explorations in the art of representation. Complete descriptions of specific courses and their prerequisites are available from the department. Students are required to take two of the various courses offered.
- LIGHTING (3). LEC. 1, LAB 2, Pr., 3rd year standing. An introduction to lighting, principles and techniques as applied to design in architecture and interior design.
- 495. SPECIAL PROBLEMS, (CREDIT TO BE ARRANGED UP TO 5 HRS.) Pr., 3rd year standing. Development of an area of special interest through independent study. May be a group or team effort under direction of the faculty and with prior approval of the head of the department. Evaluation of the work may be by faculty jury. May be taken more than one quarter. Maximum credit of 15 hours.
- 501. ARCHITECTURAL DESIGN (6-6). LEC. 2. STUDIO. 12-12. Pr., AR 403. EH 400. A synthesis of the previous design experiences is stressed through advanced theoretical and problem-solving processes. Lectures and discussions on architectural expression and professional concerns parallel studio projects emphasizing detailing as well as overall building design. S/U graded.
- 502. THESIS/TERMINAL PROJECT (6). Pr., AR 501.
- 503. THESIS/TERMINAL PROJECT (8): LEC. 2. STUDIO. 16. Pr. AR 502, 598. Thorough development of an architectural position is explored through a design problem of the student's own choosing, under the direction of the Thesis Committee and advisor(s). Lectures and discussions parallel student's work in the preparation of architectural drawings, models, details and a written text. S/U graded.
- 551. SEMINARS IN METHODS AND PROCESS (3), Pr., 201, 202, 203. The tools and techniques available to the design professional. Descriptions of specific seminars are available from the department.
- 552. SEMINARS IN CONTEMPORARY ISSUES (3). Pr., 201, 202, 203. Investigation of significant topics and issues that present opportunities and constraints to architectural thought and practice. Complete descriptions of specific seminars available from the department.
- 553. SEMINARS IN INTERDISCIPLINARY STUDIES (3). Pr., 201, 202, 203. Various disciplines that impinge upon the design of buildings, including natural and social sciences, technology and humanistic studies. Complete descriptions of specific seminars available from the department.
- 556. SEMINARS IN HISTORICAL PERSPECTIVES (3). Pr., 201, 202, 203. Theories, schools or periods with the intent of expanding awareness of critical attitudes toward both the potentials and limitations of architecture. Focus of individual seminars will range from ancient to post-modern architecture. Complete descriptions of specific seminars available from the department.
- 557. SEMINARS IN ASPECTS OF DESIGN (3). Pr., 201, 202, 203. Detailed aspects of architectural design, such as form, space, style, meaning, imagery or cultural context, with the intent of developing theoretical and analytical habits of thought. Descriptions of specific seminars available from the department.
- 558. SEMINARS IN DISCIPLINES OF ENVIRONMENTAL DESIGN (3). Pr., 201, 202, 203. Related design fields to broaden appreciation of the range of concerns of the design professional. Complete descriptions of specific seminars available from the department.
- 571-572. PROFESSIONAL PRACTICE (3-3). Pr., 4th year standing. Procedure in architectural practice, construction methods, estimation of quantities and costs. Office organization; legal requirements; professional organizations and relations; civic responsibility, professional ethics.
- 597. INTRODUCTION TO THESIS RESEARCH (3). Pr., AR 403. Architectural research including the selection of a thesis and thesis project and the initial development of a thesis paper. S/U Option.

- THESIS RESEARCH (WR) (2). Pr., AR 597. Coreq., AR 502. The development of a comprehensive architectural thesis and research paper including thesis discussion, programming site information and case studies. S/U Option.
- 599. THESIS RESEARCH (WR) (1). Pr., AR 598. Coreq., AR 503. The finalization and resolution of the issues investigated in AR 502, 503 and 598. S/U Option.

### INTERIOR DESIGN (ID)

Professor Blackwell
Associate Professor Schumacher
Visiting Associate Professor Pittman
Instructor Epperson

- 215. ELEMENTS OF INTERIOR DESIGN (3). Pr., AR 103. The profession of interior design including basic theory of interior design principles, aesthetics and design concepts. Lectures, reading and discussions.
- ELEMENTS OF INTERIOR DESIGN (3). Pr., AR 103. Graphic drawing of interior spaces and related architectural design solutions to develop.
- 217. ELEMENTS OF INTERIOR DESIGN (3), Pr., AR 103. Basic drafting techniques and skills in relation to architectural working drawings required in the construction of interior spaces and equipment.
- 301-302-303. INTERIOR DESIGN (6-6-6). LEC. 2-2-2, STUDIO 10-10-10, Pr., AR 203. Admission upon recommendation of the Committee on Design, Analysis and solution of interiors of moderate complexity, with emphasis on domestic and commercial problems. Research, discussion, drawings, models.
- 365-366. HISTORY AND THEORY OF INTERIOR DESIGN (3-3). Pr. or coreq., AR 261, 262, 263. The development of interior spaces, furniture fabrics and accessories from pre-Renaissance to 1900. Illustrated lectures, readings, reports and field trips.
- 367. 20TH CENTURY INTERIOR DESIGN (WR) (3). Pr., ID 366, Fundamental aspects of interior design, spatial order and characteristics, furniture and fabric design from 1900 to date. Illustrated lecture, readings, reports.
- 401-402. INTERIOR DESIGN (6-6). LEC. 2-2, STUDIO. 10-10. Pr., ID 307. Admission upon recommendation of the Committee on Design. Analysis and solution of interiors of advanced complexity, with emphasis on institutional and public problems. Research, discussions, drawings, models.
- 403. INTERIOR DESIGN THESIS (7). LEC. 2, STUDIO 14. Pr., ID 406. Development of a major design problem under the direction of the Committee on Design. Drawings, models, details, oral presentation for jury consideration.
- INTERIOR DESIGN RESEARCH (WR) (2). LEC. 1, STUDIO 3. Coreq., ID 406. Selection and comprehensive programming of a terminal interior design problem to be executed in ID 407.
- 441-442-443. PROFESSIONAL PRACTICE (3-3-3). LEC. 1-1-1, STUDIO 3-3-3. Office procedure and methods for interior designers; the techniques and execution of working drawings for buildings, cabinetry and interior details; specification. Discussions, drawings, inspections, reports.

#### LANDSCAPE ARCHITECTURE (LA)

Professor Williams, Committee Chair Associate Professors Bothwell and LaHaie Assistant Professor Sack Instructor Kenworthy

- 261-262. HISTORY OF LANDSCAPE ARCHITECTURE I-II(3-3). Historical analysis of man's progress in designing land and outdoor space from ancient times to the present.
- 301-302-303. BASIC LANDSCAPE ARCHITECTURAL DESIGN (6-6-6). LEC. 2-2-2, STUDIO 10-10-10. Pr., AR 203, HF 222, 223, 231. Coreq., BSC 324. Third-year design studio, emphasizing research, planning and design problems at neighborhood to community scales.
- 322. HISTORY OF EUROPEAN LANDSCAPE DESIGN (3). Pr., LA 262.
- 323. HISTORY OF AMERICAN LANDSCAPE DESIGN (3), Pr., LA 322.
- 341-342-343. LANDSCAPE ARCHITECTURAL CONSTRUCTION I-II-III (3-3-3). Pr., MH 160, 3rd year standing. LA 301 is coreq. for 341; LA 302 is coreq. for 342; LA 402 is coreq. for 343. Third-year sequence in principles, techniques and methodologies of site grading, drainage, materials, construction and systems design.
- 363. COMPUTERS IN LANDSCAPE ARCHITECTURE (3). Pr., CSE 100 or departmental approval. Introduces basic applications of computers to the Landscape Architectural profession. Emphasis on Autocadd and Landscape software.
- 401. NATURAL SCIENCE STUDIO (6). LEC. 2, STUDIO 12. Pr., fourth-year standing in LA program and LA 303. Coreq., LA 435, Coordinated Natural Science Elective and ZY 306. Natural systems analysis as a basis for site planning and large scale facilities design. A group field trip is mandatory.

- 402. INTERMEDIATE LANDSCAPE DESIGN (6). LEC. 2, STUDIO 12. Pr., fourth-year standing in LA program and LA 303. Natural systems analysis as a basis for site planning and large scale facilities design. A group field trip is mandatory.
- 403. URBAN STUDIO (6). LEC. 2, STUDIO 12. Pr., fourth-year standing in LA program and LA 303. Natural systems analysis as a basis for site planning and large scale facilities design. A field trip is mandatory.
- 431. PLANTING DESIGN (5). Pr., HF 222, 223, 321, LA 301. A continuation of planting design incorporated in landscape design courses; emphasis on problems in respect to knowledge of plant characteristics and requirements in natural and man-made environments; preparation of planting plans and specifications.
- 435. DESSEIN (3). Pr., fourth-year standing in LA program and LA 303. Coreq., LA 401, Coordinated Natural Science Elective, ZY 306, LA 363. Explores techniques for large-scale inventory and resource analysis. Includes over-lay mapping, air-photo interpretation and computer-generated mapping.
- 455. SELECTED TOPICS IN LANDSCAPE ARCHITECTURE (3). Pr., 4th year standing. A special experimental seminar or independent study course to cover topics not treated by regular course offerings.
- 495. SPECIAL PROBLEMS IN LANDSCAPE ARCHITECTURE (3). Pr., 3rd year standing. Development on a tutorial basis of an area of special interest through independent study. Maximum credit of six hours.
- 501. ADVANCED LANDSCAPE ARCHITECTURAL DESIGN (6). LEC. 2, STUDIO 10. Pr., AR 403. Studio emphasizing research, planning and design problems at regional scale. S/U Option.
- 502. THESIS/TERMINAL PROJECT (6). S/U Option.
- 503. THESIS/TERMINAL PROJECT (8). Pr., LA 502, 598. S/U Option.
- 553. SEMINARS IN INTERDISCIPLINARY ISSUES (3). Pr., admission to fourth-year standing in studio. Seminar or independent study to cover topics not treated by regular course offerings or of interest to individual faculty.
- 597. INTRODUCTION TO RESEARCH (3). S/U Option.
- 598. THESIS RESEARCH (2). Winter, S/U Option, Methods and application to the fifth-year thesis project.
- THESIS RESEARCH (1). Spring. Research methods and their application to the fifth-year thesis project.

### COMMUNITY PLANNING (CP)

Professor Meyer, *Director*Visiting Professor Juster
Associate Professor Setzer and Spain
Assistant Professors Pratt and R. Silberberg

- 501. URBAN PLANNING AND DESIGN (5). Examination of urban planning and design that shapes the three-dimensional form, character, growth, development and revitalization of cities, with focus on the role of planners and urban designers within the complex processes that shape cities and urban regions.
- MICROCOMPUTERS IN PLANNING (3). Microcomputer applications in planning, including data base management, spreadsheets, computer-aided mapping and geographic information systems.
- PLANNING AND ENVIRONMENTAL PERCEPTION (3). Pr., departmental approval. Analysis of human perception of the cultural, social and natural environments; the impacts of landscape alteration and their mitigation.
- 524. REAL ESTATE DEVELOPMENT (5). Pr., departmental approval. Survey and analysis of the financial, legal, administrative, planning and design factors influencing the process of real estate development from the perspectives of developers, planners and consumers.
- 525. HISTORIC PRESERVATION PLANNING (5). Pr., departmental approval. Planning for the preservation, restoration, conservation and adaptive reuse of historic buildings and sites within the comprehensive planning process.
- 527. DOWNTOWN REVITALIZATION (5). Pr., departmental approval. Goals, principles, strategies and programs for restoring and revitalizing downtown areas with particular emphasis on physical building and reuse activities and their relationships to fiscal, administrative and private sector organization.
- CURRENT PLANNING ISSUES (3). Pr., departmental approval. Seminar examining topical issues in the fields of urban and regional planning.
- 541. PRESERVATION RESEARCH AND DOCUMENTATION (5). Research and documentation for production of field measured drawings of historic structures to standards of the Historic American Buildings Survey.

- 545. RURAL AND COMMUNITY PLANNING (3). Pr., departmental approval. The nature of rural areas and communities, the perspective, responsibility and performance of the planning professional and a critical appraisal of regional and community plans.
- 564. SITE PLANNING (5). Pr., departmental approval, Introduction to the art of site planning, an exposition of its principles and application of its techniques with both large and small scale projects.
- 575. URBAN DESIGN METHODS AND PROCESSES (3). Pr., CP 576. Techniques and methodologies in urban design problem solving and strategies for implementation.
- 576. HISTORY AND THEORY OF URBAN DESIGN (3). Pr., AR 372. Coreq., AR 303 or graduate status. Physical development of cities and the forces that design, shape, build and redevelop them.

### Art (AT)

- Professors La Roux, Head, Dugas, Furr, Gluhman, Hanger, Hartsfield, Olson, Price and Ross Associate Professors Comstock, Heck, Lewis, Morgan, Munday and Wagoner Assistant Professors Braden, Fleming, Graham, Gruber, Krtic, Lovett, Nell and Tillman
- All studio courses require eight hours contact with instructor and four hours independent work.

  101. DRAWING I (3). STUDIO 9. Not open to VAT majors; credit cannot be applied toward B.F.A. degree.

  Basic principles of freehand drawing.
- 102. STUDIO ART I (3). STUDIO 9. Not open to VAT majors; credit cannot be applied toward B.F.A. degree. Introduction to and practice in the application of the plastic elements, color, form, line, texture, space, etc. Emphasis on two-dimensional organization.
- 103. CERAMICS (3), STUDIO 9. Not open to VAT majors; credit cannot be applied toward B.F.A. degree. Pr., AT 102. Introduction to principles of sculpture and three-dimensional design using clay as a medium, Exercises in construction, modeling, casting and wheel throwing.
- 104. BEGINNING PAINTING (3). STUDIO 9. Not open to VAT majors; credit cannot be applied toward B.F.A. degree. Water-based painting media and picture structure; exercise in still-life and landscape painting.
- 105. DRAWING II (3). STUDIO 9. Not open to VAT majors; credit cannot be applied toward B.F.A. degree. Pr., AT 101. Directed exploration and investigation of the elements of drawing through exercise/assignments involving the figure, still-life, objects from nature and interior and exterior environments.
- 111. FUNDAMENTALS (4). STUDIO 12. Mechanical and free-hand linear perspective.
- FUNDAMENTALS (4). STUDIO 12. Representational drawing. Emphasis on accurate observation, pictoral organization and mastery of tone value.
- 113. FUNDAMENTALS (4). STUDIO 12. Pr., AT 111, 112. Interpretive drawing. Emphasis on concept. content. creativity, pictorial organization and color.
- FUNDAMENTALS (4). STUDIO 12. Elements and principles of basic design. Emphasis on two-dimensional composition, color theory and craftsmanship.
- FUNDAMENTALS (4). STUDIO 12. Basic three-dimensional organization. Exploration of various media.
- FUNDAMENTALS (4). STUDIO 12. Pr., AT 121, 122. Advanced application of principles encountered in AT 121 and 122. Emphasis on concept development.
- 171 HISTORY OF ART I (3). LEC. 3. A survey of painting, sculpture and architecture from Paleolithic through early Medieval times.
- HISTORY OF ART II (3). LEC. 3. A survey of painting, sculpture and architecture from Romanesque through Baroque periods.
- HISTORY OF ART III (3). LEC. 3. A survey of painting, sculpture and architecture from the Rococo period to recent times.
- 211. BASIC FIGURE DRAWING (4). STUDIO 12. Pr., AT 113, 121, 122, 171, 172, 173. Open to VAT majors only. Drawing in various media emphasizing the human figure as form and as a compositional element. Measuring and sighting for proportion will be introduced. Requires drawing from live nude models.
- 212. FIGURE CONSTRUCTION (4). STUDIO 12. Pr., AT 113, 121, 122, 171, 172, 173. Open to VAT majors only. Lectures deal with form, function and operation of skeletal and muscular parts of the body. Drawing from casts, skeleton and from the live nude model.
- 213. FIGURE DRAWING (4). STUDIO 12. Pr., AT 123, 211, 212. Open to VAT majors only. Drawing from the model in various media, with emphasis on interpretation, expression and composition. Requires drawing from live nude models.
- 214-215-216. DRAWING (4-4-4) STUDIO 12. Pr., AT 213 and taken in sequence. Open to VAT majors only. Drawing process as a means of creating finished works. Emphasis on concept development and creativity. Various media. Live nude models may be used on occasion.

- GRAPHIC PROCESSES (4): STUDIO 12. Pr., AT 111, 112, 123, 171, 172, 173. Open to VAT majors only. Graphic reproduction processes, preparation of art copy for reproduction, copy fitting, paper, related subjects.
- DESIGN SYSTEMS (4). STUDIO 12. Pr., AT 111, 112, 123, 171, 172, 173. Design procedures for creative problem solving in visual organization; emphasis on presentation and visualization of concepts.
- GRAPHIC FORMATS (4). STUDIO 12. Pr., AT 113, 221, 222. Applied problems in editorial and advertising layout. Emphasis on relationship of format to media.
- 231-331. OIL PAINTING (4-4). STUDIO 12. Pr., AT 113, 123, 171, 172, 173.
- 232-332. WATER COLOR (4-4). STUDIO 12. Pr., AT 113, 123, 171, 172, 173.
- 233-333. ACRYLIC PAINTING (4-4). STUDIO 12. Pr., AT 113, 123, 171, 172, 173.
- 241-341. RELIEF PRINTMAKING (4-4). STUDIO 12. Pr., AT 113, 123, 171, 172, 173.
- 242-342. INTAGLIO PRINTMAKING (4-4). STUDIO 12. Pr., AT 113, 123, 171, 172, 173.
- 243-343. LITHOGRAPHY (4-4). STUDIO 12. Pr., AT 113, 123, 171, 172, 173.
- 251-351. CLAY SCULPTURE (4-4). STUDIO 12. Pr., AT 113, 123, 171, 172, 173.
- BASIC SCULPTURE (4). Pr., AT 113, 123, 171, 172, 173. Instruction in sculptural concepts, materials and construction methods.
- CERAMICS I (4). STUDIO 12. Pr., AT 112, 123. Wheel-thrown and handbuilt pottery. Presentation of historical and contemporary contexts for fine arts ceramics. Work with glazes and firing.
- HISTORY OF GRAPHIC DESIGN (3). LEC. 3. Pr., AT 171,172, 173, sophomore standing. History of graphic design from antiquity to the present.
- 301. ELEMENTARY SCHOOL ART (4). LEC. 2, LAB. 6. Pr., junior standing. Cannot be taken for credit by VAT majors. An introduction to design principles and elements. The theory of teaching art, methods and materials especially related to elementary school art.
- 321. PHOTODESIGN (4). STUDIO 12. Pr., AT 113, 123, 171, 172, 173. Open to VAT majors only. Technical aspects of equipment, materials and processing. Emphasis on aesthetic analysis. Historical development of photography as related to visual communications. Some special expense required.
- PHOTOCOMMUNICATION (4). STUDIO 12. Pr., AT 221, 321 Photography as applied communication. Emphasis on advanced technical and studio techniques.
- TYPOGRAPHICS (4). STUDIO 12. Pr., AT 221. Practical applications of typography in advertising, editorial and other contemporary formats. Historical and anatomical development of type and letter forms.
- 324. FUNDAMENTALS OF ELECTRONIC GRAPHIC DESIGN (4). STUDIO III. Pr., AT 213, 222, junior standing. Emphasis on layout, graphic design and illustration projects utilizing computer techniques and equipment.
- 352-353-354. SCULPTURE (4-4-4). Pr., AT 213, 252. Advanced instruction in sculptural concepts, materials and techniques with emphasis on the development of a personal vision and individual approach.
- CERAMICS II (4). STUDIO 12. Pr., AT 255. Continuation of AT 255 with increased emphasis on stylistic and conceptual concerns.
- ART OF THE UNITED STATES (3). LEC. 3. Pr. sophomore standing. Architecture, painting and sculpture from colonial to recent times.
- ANCIENT ART (3). LEC. 3. Pr., sophomore standing. The arts of Mesopotamia and Egypt, of Aegean cultures and of Greece and Rome.
- MEDIEVAL ART (3). LEC. 3. Pr., sophomore standing. Carolingian, Ottonian, Romanesque and Gothic art and architecture.
- RENAISSANCE ART (3). LEC. 3. Pr., sophomore standing. 15th and 16th century art and architecture with emphasis on Italy.
- 374. BAROQUE AND ROCOCO ART (3). LEC. 3. Pr., sophomore standing. 17th and 18th century European painting, sculpture and architecture.
- 19TH CENTURY ART (3). LEC. 3, Pr., sophomore standing. Major art movements from Neo-Classicism to Post-Impressionism and Art Nouveau.
- 20TH CENTURY ART (3), LEC. 3. Pr., sophomore standing. Major art movements from 1900 to more recent times.
- PRE-COLUMBIAN ART (3). LEC. 3. Pr., sophomore standing. The arts of Mexican, Yucatan and Andean cultures before 1519.
- EARLY NETHERLANDISH PAINTING (3). LEC. 3. Pr., sophomore standing. Covers the 14th to 16th centuries, from the Van Eycks and Van der Weyden to Van Leyden.
- 379. THE ARTS OF JAPAN (3). LEC. 3. Pr., sophomore standing. Key monuments, influences and personalities from Jomon through Edo periods.

- 380. ISSUES AND CRITICISM IN CONTEMPORARY ART (3). Pr., AT 173, 376 and successful completion of a studio A, 200-level sequence. Readings and discussions about issues and criticism in art since 1970.
- 399. VISUAL ARTS INTERNSHIP (4). Pr., successful completion of all 200-level course requirements in student's major area. A seven-week period working full-time as a staff member with an approved internship sponsor under the direction of a supervising art director. Credit given as an art elective. Cannot be repeated for credit.
- 424-425-426. VISUAL DESIGN I-II-III (4-4-4). STUDIO 12. Pr., AT 213, 222, 223, completion of 18 hours of art history and junior standing. Open to VAT majors only. Application of communicative procedures and skills necessary to convey messages by means of graphic presentation; problem solving. Development of student's individual style and main potential. Courses in this sequence must not be taken concurrently.
- 434-435-436. ADVANCED PAINTING/DRAWING I-II-III (4-4-4) STUDIO 12. Pr., AT 213, 231, 232, 233, completion of 18 hours of art history, junior standing and taken in sequence. Open to VAT majors only. Advanced painting with medium and subject idea determined by instructor in consultation with the student. Emphases in these courses are the strenghtening of the student's aesthetic awareness and technical skills as a maturing painter. Live nude models may be used on occasion. Courses in this sequence must not be taken concurrently.
- 444-445-446. ADVANCED PRINTMAKING i-II-III (4-4-4). STUDIO 12. Pr., AT 213, 241, 242, 243, completion of 18 hours of art history, junior standing. Open to VAT majors only. Advanced printmaking with medium and subject idea determined by student in consultation with the instructor. Emphases are in the strenghtening of the student's aesthetic awareness and technical skills as a maturing printmaker. Courses in this sequence must not be taken concurrently.
- 454-455-456. ADVANCED SCULPTURE I-II-III (4-4-4). STUDIO 12. Pr., AT 213, 252, 352, 353, completion of 18 hours of art history, junior standing. Open to VAT majors only. Advanced sculpture with medium and subject idea determined by student with approval of the instructor. Emphases on strengthening the student's aesthetic awareness and technical skills as a maturing sculptor. Courses must not be taken concurrently.
- 457-458-459. ADVANCED CERAMICS (4-4-4) STUDIO 12. Pr., AT 213, 251, 255, 351 or 355, completion of 18 hours of art history and junior standing. Advanced work in ceramic sculpture and/or pottery.
- 464-465-466. ILLUSTRATION I-II-III (4-4-4). STUDIO 12. Pr., AT 213, 223, completion of 18 hours of art history and junior standing. Open to VAT majors only. Application of illustrative concepts, media and techniques to various graphic formats. Development of personal skills and an individual style. Courses must not be taken concurrently.
- HONORS READINGS (3-5). Pr., admission to the Auburn University Honors Program. Only open to art majors. May be repeated to a maximum of 5 hours.
- SPECIAL TOPICS IN ART HISTORY (3). Pr., AT 171, 172, 173, nine hours art history at 300-level and junior standing.
- HONORS RESEARCH AND THESIS (1-3). Pr., admission to the Auburn University Honors Program.
   Only open to art majors.
- 484. ADVANCED PHOTOGRAPHY (4), STUDIO 12, Pr., 3.0 minimum average in AT 321 and departmental approval. Open to students who have shown ability, initiative and industry on individual projects. Independent study.
- 499. SENIOR PROJECT (5). Pr., completion of Group B Studio in area of concentration and must be taken during the student's final quarter. A directed terminal studio project with choice of subject and medium. The project will be exhibited and a committee will award a letter grade. Professional quality color slides of the project work must be presented to the department before the student is cleared for graduation.

- 501. ART IN EDUCATION (4): LEC. 2., LAB. 6. Pr., senior standing. Cannot be taken for credit by VAT majors. Lectures, reading and research concerning principles and objectives of pertinent phases of Art for the purpose of understanding their significance in teaching at all levels. Emphasis is on creativity rather than technical skill in laboratory experimentation.
- 520. INDEPENDENT STUDY IN ADVANCED DESIGN (4), Pr., 3.0 minimum average in AT 424, 425 and 426, senior standing. Open to students who have shown ability, initiative and industry on individual projects.
- 530. INDEPENDENT STUDY IN ADVANCED PAINTING (4). Pr., 3.0 minimum average in AT 434, 435 and 436, senior standing. Open to students who have shown ability, initiative and industry on individual projects.
- 540. INDEPENDENT STUDY IN ADVANCED PRINTMAKING (4). Pr., 3.0 minimum average in AT 444, 445 and 446, senior standing. Open to students who have shown ability, initiative and industry on individual projects.

- 550. INDEPENDENT STUDY IN ADVANCED SCULPTURE (4). Pr., 3.0 minimum average in AT 454, 455 and 456, senior standing. Open to students who have shown ability, initiative and industry on individual projects.
- 560. INDEPENDENT STUDY IN ADVANCED ILLUSTRATION (4). Pr., 3.0 minimum average in AT 464, 465 and 466, senior standing. Open to students who have shown ability, initiative and industry on individual projects.
- 570. INDEPENDENT STUDY IN ART HISTORY (3-3). Pr., 18 hours of art history, senior standing. Open to students who have shown ability, initiative and industry on individual projects. Research, drawings and reports on historical topics under supervision.

## Aviation Management (AM)

Professors Cochran, Head Program Coordinator Cash Assistant Professors Dellinger, Johnson, Klemm and Ripley Professional Flight Coordinator Cash

Students that are not AM majors need departmental approval to take AM 400-level courses.

- 101. INTRODUCTION TO AVIATION (3). LEC. 3. Onentation into aviation management career opportunities and a history of significant events and accomplishments in man's attempt to move through air and space.
- AEROSPACE PROBLEMS ANALYSIS (3). LEC. 3. Pr., MH 161. Application of basic mathematical and physical concepts to problems in the aerospace industry.
- ELEMENTARY AERONAUTICS (3). LEC. 3. Pr., AM 200. Basic flight physiology, subsonic and supersonic aerodynamics, aircraft propulsion and structures and aircraft maintenance management.
- 207. BASIC PROGRAMMING AND APPLICATIONS TO AVIATION MANAGEMENT (3). LEC. 3. Pr., AM 200. Introduction to the use of the computer as a problem solving tool. Program structure and development, decision making, documentation.
- 214. FLIGHT ORIENTATION (1). LAB 3. Basic flight experience for non-pilots to familiarize aviation majors, engineers, teachers and other students desiring a limited exposure to flight. Includes ground discussion and aircraft flight time. Special Fee.
- 215-216. PRINCIPLES OF PRIVATE FLIGHT I, II (3-3). General introduction and preparation for the FAA private pilot written examination. Topics: theory of flight, aircraft and engine performance, regulations, meteorology, navigation, airspace utilization and aviation physiology.
- 217-218. PRIVATE PILOT FLIGHT TRAINING I-II (1-1). LAB. 3-3 for 217. Pr., AM 215. For 218 Pr., AM 216 and 217 or departmental approval. Dual and solo flight instruction and discussion to prepare for FAA Private Pilot Certificate. Special Fee.
- STATISTICS (3). LEC. 3. Pr., AM 200, 207. Introduction to the principles of statistical analysis and application.
- 304. ELEMENTARY METEOROLOGY (5). LEC. 5. Pr., sophomore standing. Basic principles, causes, effects and phenomena of weather with fundamental techniques of forecasting. Not open to Aviation Management students.
- 305. AVIATION METEOROLOGY (5), LEC, 5, Pr., PS 206. Basic meteorology as it applies to the operation of aircraft with emphasis on observation of weather elements and the interpretation of flight planning weather information.
- 306. WEATHER OBSERVATION. (2). Pr., AM 304 or AM 305. Techniques of weather observations and reporting of basic weather information for aviation. Provides assistance for qualification as a supplementary aviation weather station observer.
- 309. PROPULSION AND SYSTEMS I (4). LEC. 4. Pr., PS 206, AM 207. Coverage of propulsion principles, description of reciprocating engines and major components and principles of operations. Description and operation of systems commonly found on aircraft powered by reciprocating engines.
- 310. PROPULSION AND SYSTEMS II (4). LEC. 4. Pr., PS 206, AM 207. Coverage of turbine engine components and principles of operation. Description and operation of systems typically found on commercial transport aircraft and selected aerospace vehicles.
- 314. AEROSPACE MANAGEMENT AND OPERATIONAL PROBLEMS (5). Pr., AM 207. Introduction to the use of operations research techniques. Includes the role of math modeling procedures, manual and computer generated solutions, applied to the decision making process.
- ECONOMIC ANALYSIS IN THE AVIATION INDUSTRY (5). LEC. 5. Pr., EC 200 or 301, AM 200, 207.
   Development of principles required in economic analysis.
- COMMERCIAL FLIGHT TRAINING I (1). LAB. 3. Pr., Private Pilot Cert. and departmental approval.
   Continuation of flight training toward Instrument Rating and Commercial Pilot Certificate. Emphasis on instrument, cross-country and night flying. Special fees.

- 323. PRINCIPLES OF INSTRUMENT FLIGHT (5). LEC. 5. Pr., departmental approval. Instruments, FAA regulations, air traffic control procedures, radio navigation and aircraft operation and performances as applied to instrument flying. Preparation for the FAA Instrument Pilot written examination.
- 324. COMMERCIAL FLIGHT TRAINING II (1) LAB. 3. Pr., AM 322, Coreq., AM 323 and departmental approval. Continuation of flight training toward Instrument Rating and Commercial Pilot Certificate. Emphasis on instrument and cross-country flying. Special fees.
- 325 AIRCRAFT OPERATION AND PERFORMANCE (4). LEC. 4. Pr., Private Pilot Certificate or departmental approval. Principles of aircraft performance and operations, aircraft systems, equipment, aviation weather theory and services, Federal Aviation regulations and preparation for FAA commercial written examination.
- 326. COMMERCIAL FLIGHT TRAINING III (1). LAB. 3. Pr., AM 324, 325. Coreq., AM 323 and departmental approval. Completion of Instrument Rating and continuation of Ilight training toward Commercial Pilot Certificate. Emphasis on instrument flying, advanced commercial maneuvers and high performance flying. Special fees.
- 327. COMMERCIAL FLIGHT TRAINING IV (1). LAB. 3. Pr., AM 323, 326 and departmental approval. Completion of Commercial Pilot Certificate. Emphasis on advanced commercial maneuvers and high performance flying. Special fees.
- AERONAUTICAL SEMINAR (1). LAB. 3. Pr., senior standing. Special problems and current status of the aerospace industry.
- 402. LAND USE CONTROL (2). Pr., AM 409. The methods of control of the use of private property with particular emphasis on property near airports.
- 403 GENERAL AVIATION MANAGEMENT (3). Pr., MN 310, junior standing. An overview of general aviation and its impact and interaction with the total aviation industry including a study of the various users, the suppliers and service organizations, the aircraft and facilities and regulatory framework.
- 404. GENERAL AVIATION OPERATIONS (3). LEC. 2, LAB. 3. Current principles and practices in commercial and business/corporate flight operations including organizations, sources of revenue, functions, operation and typical problems.
- 405. AVIATION SAFETY (3). Pr., AM 201 or departmental approval. Current problems and issues of aviation safety including aircraft accidents, their cause, effect and the development of safety programs and procedures.
- 408. AIR TRANSPORT PLANNING (3). Pr., AM 409. Management decision making involved in selection of equipment, routes and the establishment of rates by certified and non-certified air carriers.
- AEROSPACE LAW AND INSURANCE (3), Pr., MT 241 or 255. The legal structure of aviation including federal, local and state statutes, contracts, insurance and liability, regulatory statutes and case law.
- 413. AIRPORT MANAGEMENT (3). Pr., MN 310, junior standing. Current practices in management of a civil public airport, including organization, functions, operations, sources of revenue, funding, maintenance and administration.
- 414. AIRPORT PLANNING (3). Pr., AM 413, principles and procedures pertaining to planning airport facilities required to meet the immediate and future air transportation of a community or region.
- 416. AIR TRANSPORTATION AND AIRLINE OPERATIONS I (3). Pr., AM 310 and junior standing or departmental approval. Significance of air transportation in modern society. Development of the present system. Economic and social costs and benefits of the present air transport system.
- 417. AIR TRANSPORTATION AND AIRLINE OPERATIONS II (3). Pr., AM 416 and junior standing or departmental approval. Airline organization, management and operations. Functions of the planning, pricing and scheduling processes in various organizational components. Introduction to airline simulations.
- 417L.AIRLINE OPERATIONS LAB (2). Pr., AM 417 and departmental approval. Simulation of airline operations. Students compete as teams in a simulated commuter airline industry environment. Prepare marketing strategy and campaign; plan fleet and schedule; acquire aircraft; and simulate operating a small airline.
- 418. INTERNATIONAL AIRLINES OPERATIONS (3). Pr., AM 409, junior standing. International foreign air carriers, influences of ICAO and IATA, national ownership, determinants of power, operational and management practices, routes and fares.
- AIR TRAFFIC CONTROL (4). LEC. 4. Basic air traffic control procedures, facilities, centers and operations.
- 419L, AIR TRAFFIC CONTROL LAB (1). LAB. 3. Coreq., AM 419. Theory and fundamentals of radar operation and air traffic separation using computer based ATC radar simulators. Topics parallel those in AM 419. Special fees.
- 420. AIR CARGO OPERATIONS (3). Pr., junior standing. Domestic and international air cargo operations with emphasis on cargo economics, equipment, domestic and international regulatory activities, agents, operational techniques, systems and problems.

- 421. COMMUTER AIRLINE OPERATIONS AND MANAGEMENT (3). Pr., AM 409, coreq., AM 417 or departmental approval. Management practices and operational characteristics of the commuter airline and its place in the air transportation system.
- 427. MULTI-ENGINE TRAINING I (2). LEC. 1, LAB. 3. Pr., AM 327 or Commercial Pilot Certificate with instrument rating and departmental approval. Instruction in the methods and techniques of multiengine aircraft pilotage. Sufficient ground and flight instruction is given to qualify for the FAA pilot rating of Multi-Engine-Land. Special Fee.
- 428. PRINCIPLES OF FLIGHT INSTRUCTION (3). Pr., AM 327. Principles of teaching as applied to instructing, analyzing and evaluating flight students. Emphasis is on preparation for the FAA Flight Instructors Written Examination.
- 429. FLIGHT INSTRUCTOR TRAINING (1). LAB. 3. Pr., 327 Commercial Pilot Certificate with instrument rating. Coreq., AM 428 and departmental approval. Discussion, instruction and arranged practice in flight instruction in preparation for the FAA Flight Instructor Certificate. Special fee.
- 431. MULTI-ENGINE TRAINING II (2). LEC. 2. Pr., AM 327, coreq., AM 427 and departmental approval. Principles of personnel transportation in night and IFR operations; includes aircraft operations, flight planning, weather decision and passenger relations.
- 432. PRINCIPLES OF PROFESSIONAL FLIGHT (3). LEG. 3. Pr., AM 325 and departmental approval. Advanced aircraft performance IFR operations, high altitude meteorology and FAR part 135. Industry opportunities and required qualifications.
- 433. TRANSPORT AIRCRAFT FLIGHT TRAINING (1). LAB, 3. Pr., AM 327, 427, 431 and departmental approval. Includes instrument and night instruction, emergency procedures and actual air transportation operations. Preparation for Airline Transport Pilot Certification if otherwise qualified. Special fee.
- 435. INSTRUMENT FLIGHT INSTRUCTOR TRAINING (2). LEC. 1, LAB. 3, Pr., AM 327, 429 and departmental approval. Discussion, instruction and arranged practice in instrument flight instruction in preparation for the FAA instrument Instructor Certificate. Special fee,
- 437. MULTI-ENGINE FLIGHT INSTRUCTOR TRAINING (2). LEC 1, LAB. 3. Pr., AM 327, 427, 429 and departmental approval. Principles and techniques of multi-engine flight instruction in preparation for FAA Multi-Engine Flight Instructor Rating. Special fee.
- 491. SPECIAL PROBLEMS (VARIABLE CREDIT). Pr., department approval. Individual student endeavor under faculty supervision involving special problems of an advanced nature in aviation management. May be taken more than once with a maximum credit of six hours.
- 492. INTERNSHIP IN AVIATION MANAGEMENT. VARIABLE CREDIT (1-6). Pr., departmental approval. Provides student with practical on-the-job training under supervision with aviation agencies. Written reports are required by designated faculty supervisor.

551. AEROSPACE SCIENCE (5). A non-technical presentation of the principles and fundamentals of aviation and aerospace science, related systems and related equipment. For students who require a general knowledge of aviation or aerospace science. Includes lectures by aerospace authorities and visits to aeronautical and aviation facilities. Not open to engineering students.

## Biology (BI)

For other staff and related courses, see sections for Botany and Microbiology and Zoology and Wildlife Science.

- 101. PRINCIPLES OF BIOLOGY (5). LEC. 4, LAB. 3. Integrated principles of biology with emphasis on organic macro-molecules, bioenergetics, cell structure and function, heredity, evolution and ecology. For the science-oriented curriculum. Credit is not allowed for both BI 101 and 105 or BI 101 and SM 101.
- PLANT BIOLOGY (5). LEC. 4, LAB. 3. Pr., BI 101. The morphology, physiology, relationships, distribution and importance of plants. For the science-oriented curriculum.
- ANIMAL BIOLOGY (5). LEC. 4, LAB. 3 Pr., BI 101. Morphology, physiology, relationships, distribution and importance of animals. For the science-oriented curriculum. Credit will not be allowed for both BI 103 and 106.
- 105. PERSPECTIVES IN BIOLOGY (5). LEC. 4, LAB. 2. Principles of biology with emphasis on the relationship between humankind and modern biological science. Topics include cell biology, inheritance, evolution and introduction to ecology. For the student satisfying a general education requirement in natural science. Cannot be used to meet major or minor requirements in biological science. Credit will not be allowed for both BI 101 and 105 or SM 101 and BI 105.
- 106. HUMAN BIOLOGY (5). LEC. 4, LAB. 1. Pr., BI 101 or 105 or SM 101. Introductory human anatomy and physiology with emphasis on recent improvements in health care. For the student satisfying a general education requirement in natural science. Cannot be used to meet major or minor requirements in biological science. Credit is not allowed for both BI 106 and BI 103.

- 107. ENVIRONMENTAL BIOLOGY. (5). LEC. 4, REC. 1. Pr., BI 101 or 105 or SM 101. An introductory ecological approach to understanding human impact and dependence on the natural environment. Broad topics include ecosystems, nutrient cycles, pollution, pest management, conservation of natural resources, energy and human population. For the student satisfying a general education requirement in natural science. Cannot be used to meet major or minor requirements in biological science.
- 171. HONORS PRINCIPLES OF BIOLOGY (5). LEC. 4, LAB. 3. Integrated principles of biology with emphasis on organic macromolecules, bioenergetics, cell structure and function, heredity, evolution and ecology. Credit is not allowed for both BI 171 and 101 or BI 171 and 105 or BI 171 and SM 101.
- HONORS ANIMAL BIOLOGY (5). LEC. 4, LAB. 3. Pr., BI 171. Morphology, physiology, relationships, distribution and importance of animals. Credit is not allowed for both BI 173 and 103 or BI 173 and 106

## Botany and Microbiology (BMI)

Professors Peterson, Acting Head, Cherry, Dute, Lemke and Weete Associate Professors Barbaree, Blevins, Boyd, Brown, Daniell, Freeman, Kelley, Locy, Musso, Nielsen, Shaw and Singh

Adjunct Associate Professor Stout
Assistant Professors Campbell, Folkerts and Hinton
Adjunct Instructor Corsby

With few exceptions BI 101 and BI 102 are prerequisite to all courses in this department. For a description of these and other general biology courses see the section on Biology (above). For additional offerings in microbiology consult the curriculum in Veterinary Medicine (VM), especially with reference to advanced courses in Pathobiology (VPB). A curriculum in Molecular Biology (MOB) is also administered through the Department of Botany and Microbiology.

### BOTANY (BY)

- 306. FUNDAMENTALS OF PLANT PHYSIOLOGY (5). LEC. 3, LAB. 4. Pr., BI 102, CH 203 or 207 or equivalent. Fall, Winter. General aspects of fundamental life processes of plants involving physiological, structural and environmental relationships.
- 405. INTRODUCTORY MOLECULAR GENETICS (4). LEC. 4. Pr., BI 101, CH 208 and ZY 300 or departmental approval. Fall. Fundamentals of molecular genetics at the level of DNA sequence. Lectures on mechanisms employed by living organism to ensure correct expression, replication and survival will be given. Broad topics will include transcription, translation, regulation, promoters and other regulatory sequences, replication, repair, eukaryote genomes, introns, exons, mobile DNA and RNA processing. Class is a suitable prerequisite for upper level studies in molecular genetics such as ZY 519 and MR 522.
- 460. SPECIAL PROBLEMS (1-3). Pr., departmental approval, senior standing. A. Anatomy: B. Ecology: C. Molecular Biology; D.Morphology: E. Physiology; F. Taxonomy. A student cannot register for more than three hours credit in any one quarter or in any one area and more than 6 hours credit total for the degree.
- HONORS THESIS (3-6). Pr., senior standing in the honors program. May be repeated once for maximum of six hours credit.

- INTRODUCTORY MYCOLOGY (5). LEC. 3, LAB. 4. Pr., BI 101-102 or equivalent. Fall. A systematic survey of the fungi with emphasis on morphology. (Same course as PLP 505.)
- 506. SYSTEMATIC BOTANY (5). LEC. 3, LAB. 4. Pr., BI 101-102 or equivalent. Fall, odd years and Spring. Identification, classification, nomenclature, distribution and systematic relationship of the seed-bearing plants, utilizing primarily elements of the local flora as study material. The historical background, literature of plant taxonomy and rules of nomenclature will be considered. Field trips will include an overnight week-end field trip.
- 507. SALT MARSH ECOLOGY (6), LEC. 4. LAB. 12. Pr., BI 101-102 or equivalent. Summer. The botanical aspects of local marshes; includes plant identification, composition, structure, distribution and development of coastal marshes. Offered only at the Gulf Coast Research Laboratory. Ocean Springs, MS.
- 509. MARINE BOTANY (6). LEC. 5, LAB. 12. Pr., BI 101-102 or equivalent or departmental approval. Summer. Survey, based upon local examples, of the principal groups of marine algae and maritime flowering plants, involving their structure, reproduction, distribution, identification and ecology. Restricted to participants in the Gulf Coast Research Laboratory Teaching Session at Ocean Springs, MS.
- 510. COASTAL VEGETATION (4). LEC. 3, LAB. 10. Pr., BI 101-102 or equivalent. Summer. General and specific aspects of coastal vegetation, with emphasis on local examples. Offered only at the Gulf Coast Research Laboratory, Ocean Springs, MS.

- 513. GENERAL PLANT ECOLOGY (5). LEC. 3, LAB. 4. Pr., BI 102, BY 306 or departmental approval. Spring. Natural vegetation, environment and interrelationships between the two with emphasis on the Southeastern United States. Field trips will be made, including a week-end trip.
- 514. BIOLOGICAL MICROSCOPY (5). Lec. 2, LAB. 6. Pr., BI 102-103 or equivalent. Fall. Methods of tissue preparation for observation with the light microscope, including fixing, paraffin and plastic embedding, sectioning, general and cyto-chemical staining and mounting. Squash techniques. Optical microscopy, micrometry and photomicrography. Techniques for developing, printing, enlarging and copying for photographic illustration. Preparation of 2 x 2 transparencies.
- 515. PLANT DEVELOPMENT (5). LEC. 3, LAB. 4. Pr., BY 306 or departmental approval. Spring. The structure and development of plant cells, tissues and organs with emphasis on a review of the current anatomical, experimental and ultrastructural literature.
- 517. MARINE BOTANY (6). LEC. 8, LAB. 24, 4 days/5 weeks. Pr., BI 101-102 or equivalent. General survey of marine algae, vascular and non-vascular plants associated with the marine and estuarine environment. Structure, reproduction, identification, distribution and ecology are considered. Offered only at Dauphin Island Sea Laboratory.
- 518. MARSH ECOLOGY (6). LEC. 8, LAB. 24, 4 days/5 weeks. Pr., advanced standing in biology. Floral and faunal elements of various marine marsh communities. Interaction of physical and biological factors will be emphasized. Structured to provide actual field experience. Trips scheduled to acquaint students with examples of marsh types. Offered only at Dauphin Island Sea Laboratory.
- 550. PLANT MOLECULAR BIOLOGY (4). LEC. 4. Pr., MB 522. Spring. Introduction to plant molecular biology and gene expression in plants including organization and expression of nuclear, chloroplast and mitochondrial genome, transposable elements, plant infectious agents, direct and agrobacterium mediated gene transfer; and application of biotechnology in crop improvements.

### MICROBIOLOGY (MB)

- 201. PERSPECTIVES IN MICROBIOLOGY (5). LEC. 4, LAB. 3, Pr., BI 101 or 105. Spring. Survey of microbiology affecting human affairs. Basic biology of bacteria, fungi and viruses. Special attention given to recognition and control of infectious agents, epidemiology, food handling procedures, sanitation and other aspects important to human health. This course will not satisfy a curriculum requirement for MB 300 or 302. Cannot be used to meet major or minor requirements in biological science.
- 300. GENERAL MICROBIOLOGY (5). LEC. 3, LAB. 4 pr., BI 101, CH 103. Fundamentals of microbiology including history of microbiology, cell structure, chemical composition, growth, nutrition, metabolism, genetics, classification, cultivation and distribution of bacteria, viruses, rickettsia and fungi; discussion of the effects of chemical and physical agents on the growth of microorganisms. Credit in this course precludes credit for MB 302.
- 405. INTRODUCTORY MOLECULAR GENETICS (4), LEC. 4, Pr., BI 101, CH 208 and ZY 300 or departmental approval. Fall. Fundamentals of molecular genetics at the level of DNA sequence. Lectures on mechanisms employed by living organism to ensure correct expression, replication and survival will be given. Broad topics will include transcription, translation, regulation, promoters and other regulatory sequences, replication, repair, sukaryote genomes, introns, exons, mobile DNA and RNA processing. Class is a suitable prerequisite for upper level studies in molecular genetics such as ZY 519 and MB 522.
- 446. CLINICAL AND PATHOGENIC MICROBIOLOGY (5). LEC. 2. LAB. 6. Pr., MB 300, junior standing. Fall. Isolation, cultivation, identification, classification and pathogenesis of infectious agents, including clinical materials: Mycoplasmata (PPLO), Rickettsiae and Spirochaetes.
- 460. SPECIAL PROBLEMS (1-10). Pr., departmental approval, sophomore standing. A. Applied Microbiology, B. Diagnostic Microbiology, C. Immunology; D. Microbial Ecology; E. Microbial Physiology; F. Microbial Taxonomy; G. Molecular Biology; H. Virology. A student can complete a maximum of 10 credit hours in one area with no more than five credit hours allowable per guarter.
- HONORS THESIS (3-6), Pr., senior standing in the honors program. May be repeated once for maximum of six hours credit.
- 495. UNDERGRADUATE SEMINAR (1). Pr., junior standing. Oral presentation and discussion of research in the area of specialization. May be repeated for credit up to the limit permitted in respective curriculum model.

- 504. INDUSTRIAL MICROBIOLOGY (3). LEC. 3. Pr., MB 300, Spring. Principles and practices of microbiologists in industry. Areas surveyed to include manufacture of fermented foods, alcoholic beverages, antibiotics, amino acids, enzymes and single-cell protein.
- 508. MARINE MICROBIOLOGY (7), LEC. 5, LAB. 12. Pr., MB 300 and departmental approval. Summer. The role of microorganisms in the oceans and estuaries. Emphasis on bacteria and fungi. Lecture and laboratory work includes sampling procedures, taxonomy of marine bacteria, mineralization, microbial fouling, pollution and diseases of marine animals. Offered only at the Gulf Coast Research Laboratory, Ocean Springs, MS.

- 521. INDUSTRIAL MICROBIOLOGY LABORATORY (3). LAB. 6. Pr., MB 504. Summer. Methods for production, detection, purification of microbial products and one or more projects on fermentations or industrial processes of special interest to the student.
- 522. GENE EXPRESSION AND RECOMBINANT DNA (3). LEC. 3. Pr., MB 300, ZY 300 and either MB 405 or CH 521. Winter. Structure and function of genes; concepts and techniques in recombinant DNA.
- 522L GENE EXPRESSION AND RECOMBINANT DNA LAB (2). LAB, 4. Winter, Laboratory experiences demonstrating concepts and techniques in recombinant DNA.
- 540. MICROBIAL PHYSIOLOGY AND GENETICS (3). LEC. 3. Pr., MB 300, CH 203 or 207. Fall. Cellular structure, function, nutritional requirements, energy metabolism, growth cycles, active transport mechanisms, biosynthesis and mutation and genetics.
- 541. APPLIED AND ENVIRONMENTAL MICROBIOLOGY (5). LEC. 3, LAB. 4. Pr., MB 300. Winter. Introduces taxonomy, diversity, ecology, the role of microorganisms in industry, biotechnology and agriculture, emphasizing aspects such as genetic engineering of plants and animals, biocontrol of pests and sewage treatment.
- 542. GENERAL VIROLOGY (3). LEC. 3. Pr., MB 300 and ZY 300 or equivalent. Fall. The molecular biology of bacterial, plant and animal viruses; pathogenesis, diagnosis and cultivation.
- 543. IMMUNOLOGY (4). LEC. 4. Pr., MB 300 and ZY 300, junior standing. Winter. Immunobiology and immunochemistry of humoral and cellular mechanisms of immunity.
- 543L.IMMUNOLOGY LABORATORY (2), LAB. 4. Pr., MB 543 or currently enrolled. Winter, Laboratory exercises in immunology.
- 556. FOOD MICROBIOLOGY (5). LEC. 3, LAB. 4 Pr., MB 300. Spring. Relationship of habitat to the occurrence of microorganisms on food, environment affecting the growth of various microorganisms in food; microbiological action in food spoilage and food manufacture; physical, chemical and biological destruction of microorganisms in foods; microbiological examination of foodstuffs; and public health and sanitation microbiology.
- 558. PHOTOSYNTHESIS (3). LEC. 4. Pr., BY 306 or MB 540 or CH 518 or equivalent. Molecular biology and biochemistry of photosynthesis with emphasis on the composition, synthesis, development and operation of the apparatus for oxygenic photosynthesis in higher plants and cyanobacteria and for anoxygenic photosynthesis in other bacteria; photorespiration; genetic engineering of herbicide resistance; genes involved in photosynthesis; coordination and regulation of the chloroplast and nuclear gene expression.

## **Building Science (BSC)**

Professors Mouton, Head, Aderholdt, Lechner and Williams
Associate Professors Cooper, Hein, Killingsworth, Love, Mol. Wallace and Weiss
Assistant Professor Kramer
Instructor Malloy

- 101 INTRODUCTION TO BUILDING CONSTRUCTION (3). Overview of the construction industry and its markets, impact, practices, methods and ethics.
- 160. HISTORY OF BUILDING (3). Development and use of construction methods and materials in western civilization from Greece and Rome to the present time in the United States.
- DRAWING AND PROJECTIONS (3). LEC. 2. LAB. 3. Pr., sophomore standing. Basic architectural drafting techniques.
- MATERIALS OF CONSTRUCTION (5). Pr., sophomore standing. Survey of common building materials.
- 203. WORKING DRAWINGS AND SPECIFICATIONS (4). LEC, 2, LAB. 6. Pr., BSC 200 or IE 102 or AR 101 and BSC 202. Graphic construction communications; understanding and/or producing working drawings, shop drawings and specifications.
- 204. CONSTRUCTION SYSTEMS (3). Pr., sophomore standing. Construction systems for buildings.
- MECHANICS OF STRUCTURES (5). Pr., MH 161, PS 205. Principles of mechanics as applied to building construction; resolution of external forces; analysis of trusses; shear and bending moments.
- STRENGTH OF MATERIALS (5). Pr., BSC 211 and junior standing in AR or BSC. Strength of materials of structural members. Lectures, problems.
- REINFORCED CONCRETE (5). Pr., BSC 311. Reinforced concrete. Lectures, research and problems.
- 315. APPLIED STRUCTURES (5), Pr., BSC 311. Applied design of wood and steel structures.
- CONSTRUCTION SURVEYING (3). LEC. 2, LAB. 3, Pr., junior standing in BSC, AR or LA. Surveying techniques, topography and dimensional controls for buildings.

- ENVIRONMENTAL CONTROL I (3). Pr., AR 203. Effects of climate, materials and systems as a component of the design and construction process. Projects, exams, papers.
- 331. ENVIRONMENTAL CONTROL II (5). Pr., BSC 330. Principles of lighting, electrical and plumbing systems as a component of the design and construction process. Projects, exams, papers.
- 351. ENERGY AND BUILDINGS (3). Pr., junior standing in BSC or AR. Survey of the effects of climate, design, materials and systems on the energy consumption of buildings. Energy sources (solar, etc.) will be investigated.
- 352. HEATING, VENTILATING AND AIR CONDITIONING SYTEMS (3). Pr., PS 206 and 03 AR or 03 BSC. Analysis of heating, ventilating and air conditioning systems in buildings.
- 354. PLUMBING AND ELECTRICAL SYSTEMS (3). Pr., PS 206 and 03 AR or 03 BSC. Analysis of plumbing and electrical systems in buildings.
- 371. COMPUTERS IN CONSTRUCTION (3). LEC. 2, LAB. 2. Pr., CSE 100 and junior standing in BSC (no PBSC). Use of current software in the constructor's office for estimating, scheduling, financial management and construction records.
- CONSTRUCTION ESTIMATING I (5). LEC. 4, LAB. 3. Pr., BSC 371 and senior standing in BSC.
   Detailed estimating of building component quantities.
- CONSTRUCTION ESTIMATING II (5). LEC. 4, LAB. 3. Pr., BSC 381. Estimating direct and indirect construction costs and bid preparation.
- CONSTRUCTION INTERNSHIP (1-5). Pr., junior standing. Practical job experience under joint supervision of an employer and the department. (1-5 SU; may be taken for up to total of 8 hours).
- 399. EXPERIENTIAL LEARNING (2-5). Pr., sophomore standing and departmental approval. May be repeated once for credit. Students may obtain academic credit for participation in learning experiences of a practical nature outside the normal curricular offerings of the University. S/U graded.
- CONSTRUCTION CONTRACTING BUSINESS (5). Pr., BSC 382, fourth-year standing. Coreq., BSC 581. Organizing, managing and operating the construction contracting firm.
- 423. SOILS AND FOUNDATIONS (3). Pr., BSC 311. Soil conditions and its effects on building foundations.
- TEMPORARY STRUCTURES (3), Pr., BSC 311. Design of formwork and temporary structures in construction.
- 440. CONSTRUCTION SAFETY AND HEAVY EQUIPMENT (3). Pr., junior standing in BSC or AR. Construction operations safety and heavy equipment used in construction.
- SPECIAL PROBLEMS (1-5). Pr., department head approval, junior standing. Development of an area of concentration through independent study under staff supervision.
- 490. BUILDING CONSTRUCTION THESIS (WR) (8). LEC. 2, LAB. 15. Pr., BSC 405 and 531, final quarter prior to graduation. Cost Analysis and Construction Program for a building or special study (each as approved by the Faculty Committee). Construction program to include all documents required by the Contract and/or necessary to construct the project. Candidate will defend project orally before staff and guest specialists.
- CONSTRUCTION SCHEDULING (5). Pr., BSC 382 and senior standing. Management techniques for planning, scheduling, controlling costs and leveling manpower by use of CPM.
- CONSTRUCTION LAW (4). LEC. 3, LAB. 3. Pr., senior standing in BSC. The role of law in the construction environment; construction documents and their interpretation; dispute resolution.
- 581. PROJECT MANAGEMENT IN CONSTRUCTION (WR) (4). LEC. 2, LAB. 2. Pr., BSC 534, senior standing. Coreq., BSC 405. Procedures required to manage a construction project from initiation through completion.

# Chemical Engineering (CHE)

Professor Chambers, Head, Cullinan, Guin. Y. Lee, Maples, Neuman and Tarrer Alumni Professors Curtis and Tatarchuck Associate Professors El Halwagi and Krishnagopalan Assistant Professors J. Lee, Placek and Roberts Instructor Dunn

Non-engineering students may enroll only with departmental consent in CHE 210 and higher courses.

- 101. INTRODUCTION TO CHEMICAL ENGINEERING I (1), LAB. 3, Pr., high school chemistry. The role of the chemical engineer in the paper, chemical, plastics, petroleum, pharmaceutical and food industries and in environmental, biotechnology and biomedical and process design/control services. Includes field trips to industry and service locations.
- 102. INTRODUCTION TO CHEMICAL ENGINEERING II. (1). Pr., high school chemistry. Role of the chemical engineer in process industries. Industries not addressed in CHE 101 are considered.

- 210. PRINCIPLES OF CHEMICAL ENGINEERING (4). LEC. 3, LAB. 3. Pr., CH 112 or 104, PS 220. Application of principles of material balances to chemical processes.
- 211. CHEMICAL ENGINEERING THERMODYNAMICS I (4). LEC. 3., LAB. 3. Pr., CH 105 or 113, PS 220, EGR 201, completion of CHE 210 with a grade of C or better, Chemical engineering thermodynamics including multi-component energy balances plus non-ideal thermodynamics of multi-component mixtures involving phase changes and chemical reactions. Computer applications.
- 213. DIGITAL COMPUTERS IN CHEMICAL ENGINEERING (3). LEC. 1, LAB. 6. Pr., MH 163. Microcomputers and structured programming concepts. DOS Operating System and Pascal language programming.
- PULP AND PAPER TECHNOLOGY (3). Pr., CH 104 or 112 or equivalent and sophomore standing.
   An overview of pulp manufacturing, bleaching, papermaking, coating and printing.
- CHEMICAL ENGINEERING THERMODYNAMICS II (4). Pr., completion of CHE 211 and EGR 201 with grades of C or better. Thermodynamics of phase and chemical equilibrium.
- 361. TRANSPORT I (4): Pr., PS 220, MH 163; completion of CHE 210 with a grade of C or better. Coreq., EGR 201, CHE 211. Fluid mechanics. Includes fluid statics, conservation equations, incompressible and compressible fluid flows, measurement of flow and turbomachinery.
- 362. TRANSPORT II (4). Pr., EGR 201, MH 265; completion of CHE 211 and 361 with a grade of C or better. Coreq., CHE 213. Heat transfer via conduction, convection and radiation, design of heat exchangers and evaporators.
- 363. TRANSPORT III (4). Pr., completion of CHE 362 with a grade of C or better. Mass transfer fundamentals and applications of mass transfer principles to the design of gas absorption, drying and humidification equipment.
- 365. CHEMICAL ENGINEERING ANALYSIS (3). Pr., MH 265; completion of CHE 213 and 362 with grades of C or better. Application of mathematical techniques to the analysis and solution of unsteadystate chemical engineering problems.
- 366. STAGEWISE OPERATIONS I (3). Pr., completion of CHE 211 and 213 with grades of C or better. Coreq., CHE 337. Principles, design and industrial applications of stagewise processes such as extraction and distillation.
- 367. FLUID/SOLID OPERATIONS (3). Pr., CHE 362. Non-ideal flows and multiphase systems.
- CHEMICAL REACTION ENGINEERING (4). Pr., CHE 361, MH 265; completion of CHE 337 with a
  grade of C or better. Coreq., CHE 365. Design of chemical reactors with homogeneous reaction systems.
- 382. CHEMICAL ENGINEERING LABORATORY I (3). LEC. 1, LAB. 6. Pr., CHE 213; completion of CHE 211 and 362 with grades of C or better. Industrial chemical engineering equipment. Experimental study of heat and momentum transfer and other topics.
- 401. COAL PROCESSING TECHNOLOGY (3). Structure, properties, chemistry and utilization of coal.
- SOLAR THERMAL PROCESSES (3). Pr., CHE 362. Solar energy fundamentals, solar heat transfer, solar heating devices.
- 409. INTRODUCTION TO PULP AND PAPER TECHNOLOGY (4). Pr., CH 104 or 112 or equivalent and junior standing or departmental approval. An introductory course on the technology of pulp and paper manufacturing with emphasis on raw materials, pulping, bleaching, papermaking, coating and printing. For students with no previous formal pulp and paper training. Research paper.
- 410. PULP AND PAPER PROCESSING LABORATORY (3). LEC. 1, LAB. 6. Pr., EGR 201, CHE 310 or 409, 361 or ME 340, CHE 211 or ME 304. Experimental study of pulping and paper making operations.
- 412. SURFACE AND COLLOID SCIENCE (3). Pr., CH 508 and senior standing. Fundamentals of surface and colloid science with applications to foams, emulsions, thin films, froth floatation, detergency, biological phenomena, papermaking and tertiary oil recovery.
- 444. PROCESS DESIGN PRACTICE (2). LAB. 6. Coreq., CHE 545. Case studies in the application of chemical engineering principles to process synthesis and equipment design.
- 447. COMPUTER-AIDED PROCESS DESIGN (3). LEC. 1, LAB. 6. Pr., CHE 546. Case studies in process design.
- 450. SPECIAL TOPICS IN CHEMICAL ENGINEERING (CREDIT TO BE ARRANGED WITH A MAXIMUM OF 10 HOURS). Topical courses in special areas. May include laboratory work. May be taken more than once.
- 457. MICROCOMPUTER PROCESS DESIGN IN PULP AND PAPER INDUSTRY (3). LEC. 2, LAB. 3. Pr., CHE 556. Application of process simulation to problems encountered in the pulp and paper industry. Design of pulp and paper unit operations and processes.
- TRANSPORT PHENOMENA (3). Pr., MH 265, CHE 210. Momentum, heat and mass transport in one-dimensional non-turbulent systems.
- 479. HONORS THESIS (3-6). Pr., junior standing, departmental approval. For honors program students only. Repeatable once for a maximum total of six hours.

#### Chemical Engineering

- CHEMICAL ENGINEERING LABORATORY II (3). LEC. 1, LAB. 6. Pr., CHE 366, 382, Coreq., CHE
  363, 370. Experimental study of heat transfer, mass transfer, stagewise operations and reaction engineering.
- CHEMICAL ENGINEERING LABORATORY III (3), LAB. 9, Pr., CHE 382, 366, 370. Comprehensive open-ended projects.
- 488. PULP AND PAPER ENGINEERING LABORATORY (3), LAB. 9. Pr. CHE 366, 370, 382, 410, 510. Comprehensive open-ended projects on pulp and paper topics.
- DIRECTED READING (1). Pr., junior standing and departmental approval. Supervised study in specialized areas of chemical engineering.
- 499. UNDERGRADUATE RESEARCH (3). Pr., junior standing, departmental approval, GPA above 3.0. Individual and small group projects. May be taken twice for credit.

#### ADVANCED UNDERGRADUATE

- 510. PULP AND PAPER ENGINEERING (4). Pr., CHE 210, 310 or 409, 362 or ME 421. Coreq., ME 422. Chemical and engineering principles in the manufacture of pulp and paper.
- 512L SURFACE AND COLLOID SCIENCE LABORATORY (1). LAB. 3. Coreq., CHE 512. Modern expenmental techniques of surface and colloid science with applications to pulping and papermaking.
- 515. COMPUTER APPLICATIONS IN CHEMICAL ENGINEERING (3). LEC. 2, LAB. 3. Pr., CHE 361, MH 265; completion of CHE 211, 213 with grades of C or better. Advanced Turbo Pascal programming language concepts including applications to chemical engineering. Introduction to Minitab statistical software including applications to data acquisition process analysis.
- 516. PROCESS DYNAMICS AND CONTROL (4). Pr., CHE 366, 382, PS 222; completion of CHE 363, 365, 370 with grades of C or better. Coreq., EE 302 or 361. Dynamic modeling of chemical processes. Analysis of linear systems. Feedback systems, Analog controller design.
- DIGITAL PROCESS CONTROL (4). Pr., CHE 516. Dynamic modelling of discreet chemical process systems. Analysis of discreet open-loop and closed-loop linear system. Digital controller design.
- 518. PROCESS DYNAMICS AND CONTROL LABORATORY (2). LAB. 6. Coreq., CHE 517. Laboratory experiments in classical and computer control. Computer simulation of control systems. Demonstration and practice of theory taught in CHE 516 and 517.
- 543. BUSINESS ASPECTS OF CHEMICAL ENGINEERING (3). Pr., senior standing or departmental approval. The flow of materials and money through the chemical processing industries; marketing; relationships with investors, employees, customers, competitors, suppliers, governments and the public.
- 545. PROCESS ECONOMICS AND DESIGN (3). Pr., completion of CHE 363, 365, 366 and 370 with grades of C or better. Coreq., CHE 382. Fundamentals and applications of process economics and design. Computer-aided cost estimation and profitability analysis.
- 546. COMPUTER-AIDED PROCESS SIMULATION (4). LEC. 2, LAB. 6. Pr., CHE 444 and 545. Fundamentals and applications of computer-aided process simulation. Case studies.
- 550. ADVANCED SPECIAL TOPICS IN CHEMICAL ENGINEERING (CREDIT TO BE ARRANGED WITH A MAXIMUM OF 10 HOURS). Pr., CHE 362, 366. Topic must be arranged with instructor before registration, Topical courses in special areas for advanced undergraduate and graduate students. May include laboratory work. May be taken more than once. Special topics require specific background to be determined by instructor during preregistration.
- 556. MICROCOMPUTER PROCESS SIMULATION IN PULP AND PAPER INDUSTRY (3). LEC. 2, LAB. 3. Pr., CHE 545. Fundamentals of microcomputer process simulation with applications to the pulp and paper industry. Design of pulp and paper unit operations and small scale processes using commercial simulation software.
- 360. INTRODUCTION TO PLASTICS (3), Pr., CHE 210, CH 208. High polymers. Includes the chemistry, technology and uses of cellulosics, phenolics and amino plastics, polyolefins, vinyls, styrene, acrylics, polyesters, epoxies, polyamides, polyurethanes, silicones and rubbers.
- 565. HAZARDOUS MATERIALS MANAGEMENT (4). Pr., CH 104 or 111, senior standing. Fundamental principles and regulatory information related to hazardous materials management and engineering.
- 585. AIR QUALITY ENGINEERING (4). Pr., CHE 363. Sources and chemical nature of air pollutants. Principles of mass transfer as related to the removal of air pollutants. Design calculations and engineering of air pollution control equipment including absorption and adsorption processes.
- 594. BIOSEPARATIONS PROCESSES (3), LEC. 3, Pr., CHE 363, 366. Fundamentals of commercial scale purification techniques for biologically produced materials.
- BIOCHEMICAL ENGINEERING (3). Pr., CHE 370. Kinetics and process analysis for biochemical and biological processes. Introductory cell biochemistry.

## Chemistry (CH)

Professors Hargis, Head, Aull, Friedman, Hill, McKee, Neely, Schneller, Shevlin and Worley Associate Professors Donnelly, Illies, Kohl, Livant, Parish, Perry, Stanbury, Squillacote and Webb

Assistant Professors Blumenthal, Cammarata, Mills, Shannon and Wernette
Adjunct Instructor Milly

Chemistry Laboratory fee per course per quarter is \$20.00. This additional fee applies to CH 103L, 104L, 105L, 111L, 112L, 113L, 172L, 173L, 207L and 208L. After the 10th day of classes each quarter a Late Fee of \$10.00 in addition to the \$20.00 Laboratory Fee will be assessed. The Laboratory Fee is not refundable after the 10th class day.

- 101. INTRODUCTORY CHEMISTRY I (2). LEC. 3. Pr., or Coreq., MH 140, 160 or 161. Acquaints science students with the classifications of matter and the manner in which the chemist identifies matter and records the nature of its changes. Atomic structure, chemical bonding, molecular aggregations and the laws summarizing the properties and nature of the physical states of matter are considered.
- 102. INTRODUCTORY CHEMISTRY II (2). LEC. 3. Pr., CH 101. Continuation of CH 101.
- FUNDAMENTALS OF CHEMISTRY I (4). LEC. 4. Pr., high school chemistry. Coreq., MH 160 or 161. Encompasses the subject matter of CH 101 and 102 for students with adequate background preparation.
- 103L GENERAL CHEMISTRY LABORATORY (1). LAB. 3. Pr. or Coreq.. CH 102 or 103. The basic laboratory techniques to experimental measurements and to the interpretation of data.
- 104. FUNDAMENTALS OF CHEMISTRY II (4). LEC. 4. Pr., CH 102 or 103. A continuation of CH 102 or 103. The methods of preparation and the reactions of individual as well as classes of chemical compounds are used to study and illustrate the mechanism and dynamics of chemical change.
- 104L GENERAL CHEMISTRY LABORATORY (1), LAB. 3. Pr., CH 103L. Pr. or Coreq., CH 104. Continuation of CH 103L.
- 105. FUNDAMENTALS OF CHEMISTRY III (4). LEC. 4. Pr., CH 104. Solution chemistry including various ionic equilibria, coordination compounds, acid-base phenomena and redox processes. Quantitative analytical problem-solving will be emphasized.
- 105L GENERAL CHEMISTRY LABORATORY (1). LAB. 3. Pr., CH 104L Pr. or Coreq., CH 105. Continuation of CH 103L/104L.
- GENERAL CHEMISTRY (4). Coreq., MH 160 or 140 or 161. Also 111L. For chemistry majors and others in related areas. Credit in CH 101, 102 or 103 precludes credit for this course.
- 111L,GENERAL CHEMISTRY LABORATORY (1). LAB. 3. Coreq. CH 111. The basic laboratory techniques to experimental measurements and to the interpretation of data.
- 112. GENERAL CHEMISTRY (4). Pr., CH 111 or 103: Coreq. 112L. Continuation of CH 111. Credit in CH 104 precludes credit for this course.
- 112L GENERAL CHEMISTRY LABORATORY (1), LAB, 3, Pr., 111L Coreg, CH 112, Continuation of CH 111L
- GENERAL CHEMISTRY (4). Pr., CH 112. Coreq. 113L. Continuation of CH 112. Credit in CH 105 precludes credit for this course.
- 113L GENERAL CHEMISTRY LABORATORY (1). LAB. 3. Pr., 112L. Coreq. CH 113. Continuation of CH 112L.
- HONORS GENERAL CHEMISTRY I (4). Pr. or Coreq., MH 161. General chemistry for students in the honors program. Consideration of the concepts of chemical structure, chemical changes and energy relationships.
- 172L.HONORS GENERAL CHEMISTRY LABORATORY (1). LAB 3. Pr. or Coreq., CH 172. The experimental methods of observing chemical phenomena which includes data gathering and interpretation.
- 173. HONORS GENERAL CHEMISTRY II (4). Pr., CH 172. Continuation of CH 172.
- 173L HONORS GENERAL CHEMISTRY LABORATORY (1). LAB 3. Continuation of CH 172L.
- ORGANIC CHEMISTRY (5). Pr., CH 104. Fundamentals of organic chemistry. For students in Human Sciences and others.
- 207. ORGANIC CHEMISTRY (4). LEC. 4. Pr., CH 104. This course together with CH 208 meets the needs of students in Laboratory Technology, Pre-Medicine, Pre-Dentistry, Pre-Veterinary Medicine, Pre-Pharmacy and in other biological sciences.
- 207L.ORGANIC CHEMISTRY LABORATORY (1). LAB. 3. Pr., or Coreq., CH 207.
- 208. ORGANIC CHEMISTRY (3). LEC. 3. Pr., CH 207 and 207L. Continuation of CH 207.
- 208L.ORGANIC CHEMISTRY LABORATORY (2). LAB. 6. Pr., or Coreq., CH 208.
- 209. ORGANIC CHEMISTRY (4). LEC. 4. Pr., CH 208. A continuation of CH 208 with emphasis on those organic compounds considered to be the most important to the understanding of biochemistry; i.e., polyfunctional compounds, carbohydrates, liquids, amino acids, proteins and heterocyclic compounds.

- 209L, ORGANIC CHEMISTRY LABORATORY (2). LAB. 6. Pr., CH 208L.
- 305. ANALYTICAL CHEMISTRY (3). LEC. 3. Pr., CH 105 and 105L or 113. Theory and application of gravimetric, volumetric and colorimetric chemical analysis.
- 305L.ANALYTICAL CHEMISTRY LABORATORY (2), LAB 8, Pr., or Coreq., CH 305, Analytical techniques applied to the analysis of ores and minerals.
- 316. PHYSICAL CHEMISTRY (5). Pr., MH 140 or 160, CH 105, PS 205. Course for pre-medicine students.
- 470. HONORS READINGS AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program, junior or senior standing. May be repeated once for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor.
- 490. SPECIAL PROBLEMS IN CHEMISTRY (5), LAB, 15. Pr., departmental approval, senior standing. Not open to graduate students. An individual problem course, Each student will work under the direction of a staff member on some problem of mutual interest. May be repeated for a maximum of 15 credit hours.
- 495. UNDERGRADUATE SEMINAR (1). Pr., junior standing. Oral presentation and discussion of research in the area of specialization. May be repeated for credit up to the limit permitted in respective curriculum model.

- 504. INTRODUCTION TO MOLECULAR ORBITAL METHODS (5). Pr., CH 209 and 508 or equivalent. Elementary quantum mechanics, Huckel molecular orbital theory, SCF molecular orbital procedures, orbital symmetry problems and applications of the various theoretical procedures to organic chemistry.
- PHYSICAL CHEMISTRY (4). LEC. 4. Pr., CH 104 or 112; MH 264; PS 221 or 206. A discussion of the more important theories and laws of physical chemistry.
- 507L.PHYSICAL CHEMISTRY LABORATORY (1). LAB. 3. Pr. or coreq., CH 507.
- 508. PHYSICAL CHEMISTRY (4). LEC. 4. Pr., CH 507. Continuation of CH 507.
- 508L PHYSICAL CHEMISTRY LABORATORY (1). LAB. 3. Pr. or coreq., CH 508. Pr., 507L.
- 509. PHYSICAL CHEMISTRY (4). LEC. 4. Pr., CH 508. An extension of principles in CH 507-508 with special reference to modern theories of the structure of matter.
- 509L.PHYSICAL CHEMISTRY LABORATORY (1). LAB. 3. Pr. or coreq., CH 509. Pr., 508L.
- INTERMEDIATE INORGANIC CHEMISTRY I (5), LEC. 5, Pr., CH 508. Fall. Atomic structures, valence bonding and periodic properties of the elements.
- 511. INTERMEDIATE INORGANIC CHEMISTRY II (5). LEC. 3, LAB. 6. Pr., CH 510. Winter. Synthesis and purification of typical inorganic compounds.
- CHEMICAL THERMODYNAMICS (5). Pr., CH 508. Winter. Basic laws governing changes in energy in gases, liquids and solids.
- 513. ANALYTICAL CHEMISTRY (5), LEC. 3, LAB. 6, Pr., CH 507. Spring. Fundamental concepts used in instrumental analytical chemistry and as observed in the laboratory via spectrophotometric, electroanalytical and chromatographic techniques.
- BIOCHEMISTRY (4). Pr., CH 208. Molecular structure: classification, structure and reactions of the major chemical constituents of living matter. Also includes binding phenomena and bioenergetics.
- 518L.BIOCHEMISTRY LABORATORY (1). LAB (3). Coreq., CH 518. Identification and quantitation of compounds from the important biochemical classes. Examples include amino acid chromatography, dipeptide sequencing, glucose concentration, etc. (Same as ADS 518L.)
- 519. BIOCHEMISTRY (4). Pr., CH 518 or equivalent. Metabolism: survey of design and regulation of the major catabolic and biosynthetic (including photosynthesis) metabolic pathways. An overview of the flow of genetic information is also included.
- 519L.BIOCHEMISTRY LABORATORY (1). LAB. (3). Coreq., CH 519. Partial purification, kinetic studies and characterization of enzymes and nucleotides from various plants, animals and bacteria. (Same as ADS 519L.)
- CLINICAL BIOCHEMISTRY (5). LEC. 3, LAB. 6. Pr., CH 519 or equivalent. Spring. Principles of clinical chemical analysis.
- 521. BIOCHEMISTRY (4). Pr., CH 518 or equivalent. Spring. Molecular transmission of genetic information. Chemical and biochemical aspects of structure, function and synthesis of nucleic acids, the genetic code, protein biosynthesis, recombinant DNA technology and other topics in biotechnology.
- 530. ADVANCED GENERAL CHEMISTRY (5). LEC. 4, LAB. 3. Pr., CH 207 or departmental approval, junior standing. An in-depth study of chemistry topics that are traditionally included in high school chemistry. Not available for credit to students in the areas of science, mathematics or engineering.

## Civil Engineering (CE)

Professors Judkins, Head, Benefield, Jenkins, Melville and Yoo Feagin Professor Ramey Gottlieb Professors Güven and Tedesco Huff Eminent Scholar Molz

Associate Professors Bowman, D. Brown, R. Brown, Cousins, Elton, Morgan, Parker, Stallings and Vecellio

Assistant Professors Crowley, Lange, Lutz, Pittman and Wise

General Curriculum (CLA) students (those with undeclared majors) may enroll only with departmental consent.

- 200. INTRODUCTION TO CIVIL ENGINEERING (1). LEC. 1, Orientation to civil engineering. S/U grading.
- 201. SURVEYING (3), LEC, 2, LAB, 3. Coreq., CE 202. Data collection and analysis emphasized. Analysis of errors, distance and angle measurements; leveling; traversing; simple curves; topographic mapping and construction surveying.
- 202. COMPUTER APPLICATIONS IN CIVIL ENGINEERING (3). LEC. 2, LAB. 3, Pr., MH 163 and CSE 120. Computer programming using FORTRAN computer solutions of civil engineering problems, library programs, computer graphics and microcomputer applications.
- 206. CIVIL ENGINEERING MECHANICS (3). Pr., EGR 205. Coreq., EGR 207. Continuation of EGR 205 and 207 with emphasis on civil engineering topics. First moments, centroids and centers. Second moments and moments of inertia. Friction, equilibrium, material properties and behavior. Beam behavior and column buckling.
- 300. ENGINEERING SCIENCE APPLICATIONS (1). LEC. 2. Pr., junior standing in CE. Applications of engineering science subject matter to CE problems to help students improve their understanding and working knowledge of both theory and applications. S/U grading.
- CIVIL ENGINEERING ANALYSIS (3). Pr., MH 265, CE 202. Applications of calculus and ordinary differential equations, numerical methods, vector algebra and linear algebraic equations to civil engineering problems.
- CIVIL ENGINEERING STATISTICS (4). Pr., MH 264, CE202. Probability concepts, distributions, estimation, hypothesis testing, regression, correlation analysis, emphasis on civil engineering applications.
- 310. HYDRAULICS I (3), Coreq., CE 301, EGR 201, 235. Fundamental concepts of fluid mechanics, hydrostatics, kinematics, ideal flow, viscous effects, transport phenomena, drag, laminar and turbulent flow in pipes and channels.
- HYDRAULICS II (3). Pr., CE 310. Applications of fluid mechanics, pipe flow, fluid measurements, pipe networks, pumps, open channel, dimensional analysis and theory of modeling.
- 311L.HYDRAULICS LABORATORY (1). Coreq., CE 311. Laboratory experiments and demonstrations, pipe flow, pumps, open channels, gates, weirs, analysis and presentation of hydraulic data.
- URBAN HYDRAULIC SYSTEMS DESIGN (3). Pr., CE 310. Design of water collection and distribution facilities and waste collection systems.
- 350. HIGHWAY ENGINEERING I (3). Pr., CE 201, junior standing. Introduction to highway engineering practice with emphasis on facility design and operation. Topics include highway system characteristics; transportation planning; traffic operations and control; driver, vehicle and roadway characteristics; geometric designs; and highway safety.
- 360. THEORY OF STRUCTURES I (4). LEC. 3. LAB. 3.Pr., EGR 207. Coreq. CE 301. Basic structural analysis of determinate structures, deflection curves, influence lines and their application on determinate structures, column buckling, Lab sessions on the properties of structural materials and fundamental behavior of solids.
- 362. THEORY OF STRUCTURES II (3). Pr., CE 360. Structural analysis of indeterminate structures using geometric and energy methods. Influence lines for indeterminate structures. Approximate methods.
- 382. CIVIL ENGINEERING MATERIALS (4). LEC. 3, LAB. 3. Pr., junior standing. Introduction to common civil engineering materials used in construction of civil facilities including building highways, etc. Materials to be included are concrete, wood, asphalt, steel and aggregates.
- 400. ADVANCED SURVEYING AND MAPPING (5). LEC. 4, LAB. 3. Pr., junior standing. Programming principles and measuring are emphasized. Selected topics from map projections, electronic and special instruments: geodesy.
- 401. PROFESSIONAL PRACTICE (1). LEC. 1. Pr., senior standing. Professional engineering business, management, liabilities, registration and ethics. Owner/designer/constructor team. Types of human behavior and interacting with people. Technical communications. S/U grading.
- HYDROLOGY (3). Pr., CE 311, CE 303. Hydrologic cycle, precipitation, infiltration, runoff, unit hydrograph, rational method, evaporation, flood routing, ground water, frequency analysis, synthetic data generation.

- 420. WATER TREATMENT (3), Coreq., CE 320. Theory, design and operation of water treatment facilities.
- WASTEWATER TREATMENT (4). LEC. 3, LAB. 3, Pr., CE 420. Theory, design and operation of wastewater treatment facilities.
- ENVIRONMENTAL ENGINEERING DESIGN I (5), Pr., CE 421. Process design of environmental engineering systems.
- ENVIRONMENTAL ENGINEERING DESIGN II (5). Pr., CE 311, 421. Hydraulic design of environmental engineering systems.
- 428. RADIOLOGICAL HEALTH ENGINEERING (3). Pr., senior standing. Sources and properties of radiation, ionizing effects, biological effects, dosimetry, detection and measurement, design of radiation shielding, decontamination, disposal of wastes, legal aspects of radiation control, public attitudes.
- 430. INTRODUCTION TO SOIL MECHANICS (4). LEC. 3, LAB. 3. Pr., CE 301, GL 315. Physical properties of soils; subsurface investigations; clay minerology, soil classification; concept of effective stress; consolidation theory; time-settlement analyses; soil compaction, and shear strength.
- SOIL AND FOUNDATION ENGINEERING (3), Pr., CE 430. Slope stability; vertical and lateral soil pressures; bearing capacity; foundations.
- 440. CONTRACTS AND SPECIFICATIONS (3). Coreq., CE 460, senior standing. Legal and technical principles of construction contract documents. Drawings, plans and specifications, contract law, professional liability and ethics.
- 441. INTRODUCTION TO CONSTRUCTION (3). Pr., departmental approval. Fundamental concepts of the construction industry and practices, contracts and specifications and construction management methods and tools.
- 450. TRAFFIC ENGINEERING FUNDAMENTALS (3). Pr., CE 350. The fundamental elements of traffic engineering including traffic studies, traffic operations and traffic control devices.
- 452. AIRPORT DESIGN (4). Pr., CE 350 or departmental approval. An analysis of the elements affecting the design of airports including runway configuration, capacity analyses, geometric design of runways and taxiways, pavernent design and airfield drainage.
- 454. HIGHWAY ENGINEERING II (3). Pr., CE 350, IE 360. Planning and development of highway projects; preparation of project plans; earthwork; pavement and drainage design; construction and maintenance practices.
- 460. REINFORCED CONCRETE DESIGN I (3). Pr., CE 360. Concrete properties. Design synthesis and analysis of reinforced concrete beams, slabs and columns. Reinforcement detail.
- 465. STEEL DESIGN I (3). Pr., CE 360. Steel properties. Design synthesis and analysis of steel members in tension, compression, shear and flexure. Structural fasteners.
- 479. HONORS THESIS (3-6). Pr., department head approval. Individual student endeavor consisting of directed research and writing of honors thesis. (CE Honors Program students only. May be repeated once for a maximum of six total credit hours.)
- SPECIAL PROBLEMS. (CREDIT 1-5). Pr., department head approval. Individual student endeavor under staff supervision involving special problems of an advanced nature in civil engineering.
- 491. CONCRETE DESIGN PROJECT (5). LEC. 3, LAB. 6. Pr., EH 404, GE 382, 421, 431, 460. Group design projects involving both analysis and synthesis and culminating in a formal presentation and report. Emphasis on the design process, creative thinking, synthesis, teamwork and communications.

- 511. OPEN CHANNEL DESIGN (3). Pr., CE 311. Fundamental concepts, uniform flow, rapidly varied flow, gradually varied flow, subcritical and supercritical flow, water surface profiles, energy dissipation, introduction to transient phenoma.
- 513. COASTAL ENGINEERING. (3). Pr., CE 311. Basic wave theory, diffraction, reflection, refraction, wind waves generation, wave effects on structures and sediments.
- SUBSURFACE HYDROLOGY (3). Pr., CE 311. Soil moisture and groundwater, geology of groundwater, principles of groundwater flow, regional flow systems, flow to wells.
- 516. SUBSURFACE HYDRAULIC MEASURMENTS (3). Pr., CE 515 or departmental approval. Measurement of hydraulic conductivity, porosity and other properties using slug tests, pumping tests and flowmeter tests. Design of hydraulic tests, pumping wells, observation wells and monitoring wells.
- 517. WATER RESOURCES ENGINEERING (3). Pr., CE 311, 412. Uses and sources of water, economic, hydrologic, hydraulic, environmental and legal aspects of design and operation of water-resource systems; multi-purpose projects; irrigation, hydroelectric power generation and flood control.
- 518. STORMWATER DRAINAGE DESIGN (3). Pr., CE 312. Urban, highway and airfield storm runoff estimation. Flood plain prediction and management. Hydraulic design of stormwater drainage systems, inlets, storm sewers, open channels, culverts, detention basins.
- ENVIRONMENTAL ENGINEERING CHEMISTRY I (3). Pr., departmental approval. Equilibrium chemistry aspects of environmental engineering.

- 520L.ENVIRONMENTAL ENGINEERING CHEMISTRY I LABORATORY (1). Pr., departmental approval. Coreq., CE 520, Laboratory testing procedures and experiments relating to the treatment of waters and wastes.
- ENVIRONMENTAL ENGINEERING CHEMISTRY II (3). Pr., CE 520 or departmental approval. Numerical and graphic techniques associated with physical, chemical and biological aspects of environmental engineering.
- 521L ENVIRONMENTAL ENGINEERING CHEMISTRY II LABORATORY (1). Pr., CE 520 and 520L or departmental approval. Coreq. CE 521. Continuation of CE 520L. Laboratory testing and experiments related to water and waste treatements.
- 523. ENVIRONMENTAL HEALTH ENGINEERING (3). Pr., departmental approval. Application of engineering methodology to communicable disease control, insect and rodent control, milk and food sanitation, noise control, industrial hygiene, refuse collection and hazardous waste management.
- 524. AIR POLLUTION (5). Pr., departmental approval. The nature, sources and effects of polluting materials including gases, dusts, vapors and tumes and the relations of atmospheric conditions to their dispersal. Introduction to theory and design of air pollution control devices and sampling programs. Legal aspects of air pollution.
- 527. FUNDAMENTALS OF WATER SUPPLY AND WASTE TREATMENT (5). Pr., departmental approval. (Not for credit for civil engineering students). The principles of water supply and waste disposal and the chemistry and biology of water and waste treatment will be presented. Alternatives in water supply and waste disposal will be considered and the theory of treatment operations will be discussed. Lab exercises will be conducted.
- 528. FUNDAMENTALS OF ADVANCED WATER AND WASTEWATER TREATMENT (3). Pr., departmental approval. (Not for graduate credit for civil engineering students.) Principles of various methodologies for advanced water and wastewater treatment will be discussed. Economic trade-offs and process selection will be emphasized.
- SHALLOW FOUNDATION DESIGN (3). Pr., CE 431. Design of spread footings, combined footings, mat foundations, rigid and flexible retaining walls.
- 531 DEEP FOUNDATION DESIGN (3). Pr., CE 431. Single piles, vertical and lateral loads, pile installation, pile groups, field load tests, drilled shafts and caissons. Design and construction methods.
- 532. EARTH RETAINING STRUCTURES DESIGN (3). Pr., CE 431 or equivalent. Lateral earth pressure, gravity and cantilever walls, reinforced soil, soil nailing, anchored bulkheads and braced excavations. Design project.
- 538. EARTH DAM ENGINEERING (3). Pr., CE 431. Earth dam design and construction. Material selection, filter design. Flownets in earth dams. Stability analysis of earth dams.
- CONSTRUCTION MANAGEMENT (3). Pr., senior standing. Project planning and scheduling, estimating and bidding, labor law, labor productivity, project safety.
- 544. CONSTRUCTION EQUIPMENT AND METHODS (3). Pr., senior standing. Selection of equipment for heavy construction operations; Production rates, owning and operating costs, optimizing equipment mix. Construction methods; formwork, compressed air and dewatering systems, blasting.
- TRAFFIC ENGINEERING ANALYSIS (3). Pr., CE 350. Practice of traffic engineering emphasizing capacity analyses.
- 551. TRAFFIC CONTROL SYSTEMS DESIGN (4). Pr., CE 350. Fundamental design concepts for high-way traffic control systems. Control requirements and warrants; hardware operation and equipment selection; development and implementation of timing plans for isolated intersections and intersection networks.
- 553. GEOMETRIC DESIGN (4). Pr., CE 350. An analysis of the elements affecting the location and design of rural highways, urban highways and arterial streets including design controls and criteria, crosssection elements, intersection design, interchange design and social and environmental considerations.
- 554. FREEWAY PLANNING AND OPERATIONS (3). Pr., CE 350. Planning, design and operation of urban freeways and expressways and rural interstate facilities. Topics include project planning and development; design concepts and criteria; interchange and ramp design; capacity analysis; freeway operations; survelliance and control systems.
- 556. TRANSPORTATION PLANNING (3). Pr., CE 350 or departmental approval. The planning process for urban and regional transportation development. Topics include planning objectives and data requirements; planning inventories; modeling of trip-making behavior, development and evaluation of alternative plans; transportation system management concepts.
- 558. RAILWAY ENGINEERING (3). Pr., CE 350. Fundamental elements affecting the planning, design and operations of rail systems.
- 560. REINFORCED CONCRETE DESIGN II (3). Pr., CE 460. Coreq.. CE 362. Building assemblages. USD for beams; T-beams; doubly reinforced beams; long columns and beam-columns; one way and two way slabs; footings; retaining walls. Interpretation of codes. Serviceability check.

#### Communication

- 562. PRESTRESSED CONCRETE DESIGN (3), Pr., CE 460, Coreq., CE 362. Properties and behavior of prestressed concrete. Prestressing systems and end anchorages. Loss of prestress. Analysis and design of beams for flexure. Camber, deflection and cable layout.
- STEEL DESIGN II (3). Pr., CE 465. Coreq., CE 362. Structural assemblages. Interpretation of codes; analytical verification of lateral frames.
- 567. COMPUTER METHODS IN STRUCTURAL ENGINEERING (3). Principles of matrix formulations of structural problems; force and displacement methods. Algorithms for computer programs for analysis of trusses, beams and frames. Use of computer programs, p columns, floor and wall assembly and wood formwork. Timber trusses and laminated arches.
- STRUCTURAL DYNAMICS I (3). Free and forced vibration of single degree of freedom systems. Identification of dynamic loads. Response spectra.
- 569. TIMBER DESIGN (3). Pr., CE 360. Properties and behavior of timber and plywood. Design of timber beams, columns, floor and wall assembly and wood formwork. Timber trusses and laminated arches.
- 570. WIND ENGINEERING (3). Pr., CE 362; CE 460; or CE 465. Wind phenomena and wind pressures on structures; effects of wind on structures and damage mechanism; building codes, standards and procedures pertaining to wind engineering; design of wind resistant structures.
- 582. OPTIMIZATION METHODS (3). Pr., CE 301. Applications of calculus, linear programming and dynamic programming to civil engineering systems.
- 583. SIMULATION METHODS (3). Pr., CE 303. Monte Carlo methods; continuous variable simulations, applications of discrete variable simulation languages to civil engineering systems.
- 584. SOIL STABILIZATION (3). Pr., CE 430 or equivalent; junior standing. Methods of stabilizing soft soil; consolidation, compaction with the use of lime, cement and other additives; construction operations, costs and field control related to soil stabilization.
- 585. ASPHALT TECHNOLOGY (3). LEC. 2. LAB. 3. Pr., CE 382. Production and uses of asphalt; measurement and significance of laboratory properties of asphalt, including viscosity, penetration, flashpoint, ductility, solubility, thin film oven test and specific gravity; measurement of asphalt mix properties, including Marshall Stability and maximum specific gravity.
- PAVEMENT DESIGN (3). Pr., CE 350, 382, 430. Material characterization, pavement response models, pavement performance models, structural design systems.
- 589. PAVEMENT CONSTRUCTION (3). Pr., CE 382. Methods, equipment and quality control for pavement materials production and placement; materials include soils, granular layers, asphalt concrete, surface treatment and Portland Cement Concrete; description of plans and specifications for each material.
- 590. SPECIAL PROBLEMS (CREDIT 1-5). Pr., department head approval; may be taken more than one quarter. Staff supervision of advanced, individual student investigations of specialized problems in civil engineering.

#### Communication (COM)

Professor Barker

Associate Professors Fitch-Hauser, Chair, Brown, Plasketes, Villaume and Weaver Assistant Professors Brinson, Elwood and White

> Visiting Assistant Professor Dick Adjunct Associate Professor Rotfeld Adjunct Assistant Professor Felkey Instructors Cook, Smith, Sutton and Winn

## GENERAL COMMUNICATION (COM)

- 100. PROFESSIONAL COMMUNICATION (3). Oral communication theory and practice in interviewing, oral reporting, public speaking with emphasis on content, organization, delivery and adaption to the audience.
- 141. GROUP PROBLEM SOLVING THROUGH DISCUSSION (5). Group problem solving through discussion. The values and limitations of discussion, the prerequisites of reaching agreement and a systematic approach to solving problems in group discussion. Leadership in problem solving.
- 171. PARLIAMENTARY PROCEDURE (1). To aid the individual who may lead or participate in discussions or organizations where orderly procedure is needed. Theory and practice both employed.
- 250. FOUNDATIONS OF HUMAN COMMUNICATION (5). The nature, purposes and process of communication. Theories examining the use of verbal and nonverbal codes, the influence of context and the effects of messages in a variety of settings.
- 260. FOUNDATIONS OF RHETORIC AND SOCIAL INFLUENCE (5). Examines the impact of discourse in public discussion of social and political issues; traces the development of rhetorical theory from its classical roots to contributions by modern thinkers; relates rhetorical theory and analysis to understanding of the persuasive discourse in our society.

- 310. SPEAKING BEFORE AUDIENCES (5). Pr., RTF 230, COM 250, 260. Composition and delivery of original speeches for Communication majors only.
- 311. PERSUASIVE DISCOURSE (5). Pr., departmental approval. Understanding, practicing and analyzing persuasion. Survey of alternative theoretical approaches to attitude formation and change. Practical experience in organizing and presenting persuasive messages. Developing skills as a critical evaluator of persuasion in natural settings.
- 320. FUNDAMENTALS OF ORAL INTERPRETATION OF LITERATURE (5). Oral readings of prose, poetry and drama, enhancing students' understanding and appreciation of the art of literature by engaging them actively in reading the literary text aloud.
- 340. COMMUNICATION IN ORGANIZATIONS (5). Focuses on prevalent communication skills in complex human organizations. Students participate in a variety of communication-related activities including interviewing, the development of a consulting prospectus and presentational speaking. Theoretical considerations for each performance area are stressed.
- SMALL GROUP COMMUNICATION (5). Pr., RTF 230, COM 250, 260. Group processes such as decision-making, problem-solving, leadership and conflict management for Communication majors only.
- 370. ARGUMENTATIVE DISCOURSE (5). Debating techniques and procedures; their application to issues of current public interest; the gathering, organization and presentation of facts, proofs, evidence.
- 375. DEBATE WORKSHOP (1). Advanced national debate question for experienced debaters. Analysis of logical, emotional proofs in competitive debate. Lecture and practical work. May be repeated for a maximum of three credit hours.
- 400. HONORS THESES (3-6), Pr., senior standing and enrollment in the Honors Program. Repeatable once for a maximum of six hours credit.
- 410. COMMUNICATION STRATEGIES OF SOCIAL MOVEMENTS (5). An examination of the communication techniques of contemporary social movements to attract members, solidify support and effect social change. Topics to be covered include: stages of development of movements; issues, persuasive strategies and stylistic devices of representative groups; and, nature and impact of social movements.
- 415. HONORS READINGS AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program and junior or senior standing. May be repeated to a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor.
- 422. READERS THEATER (5). Pr., COM 320 or departmental approval. Literature appropriate to group performance and treats the techniques of adaptation, compilation, rehearsal and staging of non-dramatic literature.
- 441. THEORIES OF LEADERSHIP (5). Emphasizes theory and research in leadership as a communication variable and behavioral practice in small group and organizational settings. Students participate in numerous leadership simulations.
- 450. PSYCHOLOGY OF COMMUNICATION (5). Pr., one course in psychology. Speech as a psychological phenomenon with consideration of language development, symbolism, verbal learning. Small groups and audience behavior and psychological studies in various areas of communication situations.
- 451. SURVEY RESEARCH METHODS IN MASS COMMUNICATION (5). Theory and practical experience in methods of survey research in mass media and public relations. Sampling techniques, interview strategies, questionnaire development and data analysis.
- 470. LEGAL COMMUNICATION (5). Three communication subjects of significance to the legal profession are treated; the initial lawyer/client interview, legal negotiation and trial practice. The theory and research base of these three topics will be investigated, and practicum exercises will assist student development of needed skills.
- 480. INTERPERSONAL COMMUNICATION (5). An analysis and comparison of several approaches to the study of current problems in interpersonal behavior and relational communication. Contexts of varying person perception, interpersonal attraction; and how person perception is related to behavior.
- 481 NONVERBAL COMMUNICATION (5). Research and theory in several areas of non-verbal communication including kinesics, proxemics, paralinguistics, environment and personal appearance.
- SPECIAL TOPICS IN SPEECH COMMUNICATION (1-5). Examines selected topics in Speech Communication. May be repeated; only five hours applicable to the major.

512. COMPUTER APPLICATIONS TO COMMUNICATION THEORY AND RESEARCH (5). Applies computer simulation techniques to the process of message construction, diffusion of information, small group interaction and organizational network analyses. Course also utilizes statistical packages in the testing of the communication dependent hypotheses.

## RADIO/TELEVISION/FILM (RTF)

- FOUNDATIONS OF MASS COMMUNICATIONS (5). History and bases of mass communication in the U.S., emphasizing social, cultural, regulatory and economic aspects of the American mass communication system.
- INTRODUCTION TO FILM STUDIES (5). LEC. 4, LAB. 2. Introduction to film analysis, modes of film
  practice and critical approaches to the study of cinema.
- 322. FEATURE WRITING (5). Pr., JM 221 or JM department approval. Gathering material for the writing of "human interest" and feature articles for newspapers and magazines, with consideration given to the marketing of manuscripts. Precludes credit for JM 322.
- INTRODUCTION TO BROADCAST PRODUCTION (5), Pr., COM 230. Basic principles of single channel audio production, television studio production and television post-production techniques.
- 334. RADIO PRODUCTION TECHNIQUES I (5). Pr., departmental approval. Analysis of the creative efforts and responsibilities in the primary stages of broadcast production. Practice in writing, producing, directing, performing and crewing radio productions and taped material.
- 335. WRITING FOR RADIO/TELEVISION FILM (5). Pr., departmental approval, The technique of writing dramatic and non-dramatic material for television, radio and films. Emphasis is placed on performance. Students may elect to emphasize one area.
- 336. TELEVISION PRODUCTION DIRECTION I (5). Pr., departmental approval. Individual and group projects in the development and production of programs and formats; an intense study of directing theory and the director's role through presentation of educational and dramatic materials.
- 337. ELECTRONIC FIELD PRODUCTION (5). Pr., departmental approval. The principles and techniques of video tape production with emphasis on portable and remote equipment. The course includes the production and direction of electronic news gathering projects along with the scripting of various creative field assignments.
- 338. BROADCAST NEWS WRITING (5). Pr., departmental approval, Writing and editing news and informational materials for television and radio. Students solicit and prepare news from and for local sources.
- HISTORY OF AMERICAN BROADCASTING (5). Pr., RTF 230, COM 250, 260 or departmental approval. The technological, legal, economic and social evolution of radio and television in America.
- POPULAR CULTURE AND MASS COMMUNICATION (5). Pr., COM 100, 250, 260, RTF 230. Examines popular culture within a mass media context.
- 430. RADIO/TELEVISION PROGRAMMING STRATEGIES (5). Pr., RTF 230. Introduces students to the principles, processes, theories and strategies of programming for radio and television stations and for cable television systems. An introduction to interpreting broadcast ratings.
- 431. THE SOCIAL INFLUENCE OF MASS MEDIA (5). Functions and effects of mass communication on contemporary social norms and values. The impact of the media on the level of violence and aggressive behavior, the nature of the political process; and individual attitudes and behavior.
- 432. BROADCAST MANAGEMENT (5). Investigates principles and practices of managing broadcasting stations and cable operations.
- 433. MEDIA, LAW AND REGULATION (5). Legal, professional and ethical constraints on the mass media.
- 434. AUDIENCE RESEARCH (5). Examines broadcast market and audience research methodologies; the application of research to programming and sales; and the broadcast audience ratings companies.
- 436. HISTORY OF INTERNATIONAL CINEMA (5). LEC. 4, LAB. 2. Pr., RTF 235 or departmental approval. History of international cinema, including major national cinemas, film movements, directors and evolution of the film style.
- 439. INTERNSHIP (3 or 6). Pr., departmental permission and junior standing. S/U grading only.
- 534. RADIO PRODUCTION TECHNIQUES II (5). Pr., COM 334 or departmental approval. A continuation of COM 334 with further refining of writing, producing, directing, performing and crewing radio productions and audio taped material.
- 536. TELEVISION PRODUCTION DIRECTION II (5). Pr., COM 336. Individual and group projects in the creation of program material with emphasis on the writer-producer's role in the industry.
- SPECIAL TOPICS IN RADIO/TELEVISION/FILM (5). Pr., COM 250, 260, RTF 230 or equivalent and junior and senior standing. Specialized areas in RTF, taught quarterly. May receive credit for the course no more than two times.

#### PUBLIC RELATIONS (PR)

304. INTRODUCTION TO PUBLIC RELATIONS (5). Pr., JM 101. The broad spectrum of the field of public relations. The various communication skills and technologies necessary for successful public relations will be identified and explored. Credit for this course precludes credit for JM 304.

- 402. PUBLIC RELATIONS CAMPAIGNS (5). Pr., JM 101, PR 304. Investigates selected professional code of ethics and considers appropriate ethical principles for PR practitioners. Also tocuses on applying ethical standards to planning campaigns for various target publics.
- 404. PUBLIC RELATIONS CASE STUDIES (5). Pr., JM 101, PR or JM 304 or departmental approval. Investigation and analysis of public relations problems through case studies. Credit for this course precludes credit for JM 404.
- 408. PUBLIC RELATIONS WRITING AND RESEARCH (5). Pr., JM 101, PR 304, COM 451. Focuses on methods of gathering and reporting information used in various PR messages. Examines research techniques and instruments used in public relations.

### Communication Disorders (CD)

Professors Fitch, Haynes, Chair, and Pindzola
Associate Professor Moran
Assistant Professors Haak, Johnson and Venema
Clinical Instructors Clark-Lewis, Paxton, Sayers and Zylla-Jones
A (*) denotes a GPA of 2.5 is required to enter the course.

A (**) denotes a GPA of 2.2 is required to enter the course.

## SPEECH PATHOLOGY

- 250. COMMUNICATION DISORDERS IN SOCIETY (3). Information on stuttering, speech disorders, language disorders, voice problems and hearing impairment. Students experience what it is like to have these problems and learn how to interact with individuals with communication disorders.
- THE SPEECH AND HEARING MECHANISM (5). Anatomy and physiology of the speech and hearing mechanism.
- 341. PHONETICS (4). Principles of phonetics and their application to speech.
- 350. INTRODUCTION TO SPEECH PATHOLOGY AUDIOLOGY (5). Survey of the field of speech pathology-audiology. Includes history of the profession, the inter-relatedness of the various pathologies, general principles of evaluation and therapy and the profession itself.
- 355. SPEECH AND HEARING SCIENCE (4). Pr., CD 340, 341, 2.2 GPA. Introduction to the normal processes of speech, language and hearing including: the physiological aspects of normal human speech communication, the hemispheric processing of language, the acoustical aspects of speech production and transmission, the psychoacoustic aspects of speech reception and the perceptual variables associated with linguistic behavior.
- 450. COMMUNICATION DISORDERS IN THE CLASSROOM (5). Not open to students emphasizing or majoring in speech-language pathology and audiology. Basic principles underlying a speech-language pathology program in a school setting. Description and discussion of disorders of oral communication, the identification of such disorders, principles of management and the role of the classroom teacher.

#### ADVANCED UNDERGRADUATE

- ARTICULATION DISORDERS (5). 1Pr., CD 340, 341 or equivalent**. Principles of normal and deviant articulation acquisition.
- LANGUAGE ACQUISITION (5). Pr., CD 340, 341 or equivalent**. First language acquisition in child-hood and its change throughout the life span.
- 553. FLUENCY DISORDERS (5). Pr., CD 340, 341 or equivalent**. Principles of fluent and disfluent verbal behavior.
- 554. VOCAL DISORDERS (5). Pr., CD 340, 341 or equivalent**. Principles of normal and deviant vocal behavior.
- 556. CHILD AND ADOLESCENT LANGUAGE DISORDERS (4)**. Pr., CD 552 or equivalent. Overview of research dealing with the nature, assessment and treatment of language disorders in child and adolescent populations.
- 557. EVALUATION OF RESEARCH IN SPEECH PATHOLOGY AND AUDIOLOGY (5), Pr., CD 551 or 552 or 553 or equivalent**. A critical survey of common experimental designs and statistical procedures used in the speech-language pathology/audiology literature. For consumers of research as opposed to researchers.
- 558. INTRODUCTION TO CLINICAL PROCEDURES IN SPEECH PATHOLOGY (4)**, Pr., two of the following; CD 551, 552, 553, 554 (one of these must be 551 or 552). Orientation to clinical activities, management methods and preparation of professional reports. Clinical observation required.
- 559. CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY (1). Pr., CD 558 or equivalent*. May be repeated for a maximum of two hours toward minimum degree requirements.

#### AUDIOLOGY

- .560. INTRODUCTION TO AUDIOLOGY (5)**. Principles of auditory reception and the problems involved in measuring, evaluating and conserving hearing.
- 562. HEARING REHABILITATION (5). Pr., CD 560 or departmental approval**. Detailed concern for the rehabilitation problems of children and adults in the area of auditory training, speech reading and speech conservation. Clinical practice.
- 565. INTRODUCTION TO CLINICAL PROCEDURES IN AUDIOLOGY (4). Pr., CD 560 or equivalent Audiological instrumentation and test procedures.

## Computer Science and Engineering (CSE)

Professors Seidman, Head, and deMaine
Associate Professors Carlisle, Chang, Cross, Day, McCreary and Phillips
Assistant Professors Chapman, Gong, McManis, Moore and Murphy

- 100. INTRODUCTION TO PERSONAL COMPUTER APPLICATIONS (3). Introduction to personal computers and software application packages including word processing, spreadsheets and data base systems. Lab sessions provide a hands-on environment in which to master the basic skills required for proper utilization of each package. No prior knowlege of computers is assumed.
- INTERMEDIATE PERSONAL COMPUTING (3), LEC, Z, LAB. 3. Pr., CSE 100 or equivalent. Continued development of topics covered in CSE 100, with emphasis on practical applications.
- INTRODUCTION TO ENGINEERING COMPUTATION (3), LEG. 2, LAB. 3. Coreq., MH 161, Structured digital computer programming with emphasis on the use of the digital computer as an engineering tool.
- 200. FUNDAMENTALS OF COMPUTER SCIENCE I (4). LEC. 3, LAB. 3. Coreq., MH 163. Broad introduction to programming methodology. Emphasis is placed on problem-solving strategies and techniques for developing/documenting computer applications, including principles of structured programming, problem decomposition, program organization, the use of procedural abstraction and basic debugging skills.
- COMPUTER PROGRAMMING (3). Pr., MH 151 or 161. Digital computer programming with emphasis on mathematical problems, using FORTRAN programming language. (Not open to students with credit in CSE 120.)
- 220. FUNDAMENTALS OF COMPUTER SCIENCE II (4), LEC. 3., LAB. 3. Pr., CSE 200. Continuation of CSE 200. Pointers and dynamic data structures; linked lists, queues, stacks, trees and graphs.
- 300. STRUCTURED PROGRAMMING FOR ENGINEERS AND SCIENTISTS (3). Fundamentals of structured programming principles, including top-down program design, program documentation, and advanced problem solving for engineering and scientific applications using a structured programming language. (Not open to students with credit in CSE 200.)
- 301. WORKSTATION TOOLS FOR ENGINEERING (3). LEC. 2, LAB. 3. Pr., one high-level language programming course. Elementary problem-solving for engineering and scientific applications using a computer workstation environment. Includes an introduction to a structured programming language. A coordinated approach demonstrates the role of workstation tools in improving the quality and efficiency of programming efforts in all engineering disciplines.
- DISCRETE STRUCTURES (3). Pr., MH 266. Sets, relations, functions, recurrence relations, propositional calculus, predicate calculus, boolean algebra, graph theory, introduction to monoids and formal language theory.
- 335. MICROCOMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE PROGRAMMING (4). LEC. 3, LAB. 3. Pr., EE 330. Stored program computers, hardware components, software components; data representation and number systems; instruction sets; addressing modes and assembly language programming; memory, memory cycles and memory hierarchy; arithmetic/logic unit; control unit, program counter and instruction cycle; input/output programming and interrupts. (Credit is not allowed for both EE 335 and CSE 335.)
- 350. SYSTEMS PROGRAMMING WITH C (3). Pr., CSE 220. Extensive treatment of the C programming language and major software development tools in the UNIX environment. Applications to systems programming, including interaction with operating system functions and network programming.
- 360. FUNDAMENTAL ALGORITHM DESIGN AND ANALYSIS (3). Pr., CSE 220. Algorithm development using pseudo-languages; elementary program structures; classification of algorithms, e.g. recursive, divide-and-conquer, greedy; algebraic simplification and transformation; evaluation of polynomials; iteration; sorting; solving linear equations; basic search methods and backtracking.
- 400. SYSTEMS PROGRAMMING PRINCIPLES! (3). Pr., CSE 335. Coreq., CSE 360. Review of machine structure, machine language and assembly language; introduction to the design of assemblers, macro processors and loaders; overview of operating systems principles.

### Computer Science and Engineering

- 400L.SYSTEMS PROGRAMMING LABORATORY (1). Coreq., CSE 400. Design and implementation of an assembler, a macro processor or a binder/loader as a comprehensive project.
- 405. OPERATING SYSTEMS (3). Pr., CSE 350. Structure and functions of operating systems; process state models and scheduling algorithms; memory management; interrupt processing; auxiliary storage management; disk scheduling algorithms and file systems; resource allocation policies and deadlock; protection; concurrent asynchronous processes; design strategies.
- 405L.OPERATING SYSTEMS LABORATORY (1). Coreq., CSE 405. Design and implementation of operating systems components as a comprehensive project.
- DATABASE SYSTEMS I (3). Pr., CSE 360. An introduction to database systems: basic concepts, storage structures, data models and data sublanguages: relational, hierarchical and network models.
- INTRODUCTION TO SOFTWARE ENGINEERING (3). LEC. 2, LAB. 3. Coreq., CSE 360. Tools and methodology for the design of complex software systems composed of integrated programs, data files and user interfaces.
- 432. INTRODUCTION TO COMPUTER NETWORKS (3). Pr., CSE 350 or EE430. Fundamental concepts of computer networks and communications; the seven-layer OSI model; local and wide area networks; applications and case studies.
- SPECIAL TOPICS (CREDIT TO BE ARRANGED.) Pr., departmental approval. May be taken more than one quarter.
- 498. HONORS THESIS (3-6). Pr., department head approval. Individual student endeavor consisting of directed research and writing of honors thesis. (CSE Honors Program students only. May be repeated once for a maximum of six credit hours.)
- 499. SPECIAL PROJECTS (CREDIT TO BE ARRANGED.) Pr., departmental approval. May be taken more than one quarter.

### ADVANCED UNDERGRADUATE AND GRADUATE COURSES

- 500. X WINDOW SYSTEM PROGRAMMING (3). Pr., CSE 350 or departmental approval. Introduction to the design of graphical user interfaces based on the X Window System platform. Students design and implement object-oriented interface components using standard widget sets and the X Toolkit intrinsics.
- 501. ADVANCED SCIENTIFIC COMPUTING (3). LEC. 2, LAB. 3, Pr., senior standing and knowledge of FORTRAN. Design and implementation of scientific and engineering applications using supercomputers. Emphasis is on the use of vectorization and loop-level parallelization to speed up largescale numerical computations.
- 505. OPERATING SYSTEMS DESIGN PRINCIPLES (3). Pr., CSE 405 or EE 430. Design and Implementation strategies used in operating systems software to manage system resources; design problems in implementing multiprogramming and dynamic management of memory; design solutions to synchronizing and communicating with processes; managing time; design techniques used to process various classes of interrupts and to schedule processors.
- 512. DATABASE SYSTEMS II (3). Pr., CSE 412. Database system architecture and design methodology, with emphasis on the relational model. Design and implementation of a comprehensive database system as a coordinated project.
- 518. PROGRAMMING LANGUAGE CONCEPTS (3). Pr., CSE 360. An evaluation of the major programming language paradigms, with emphasis on how language concepts affect design and implementation decisions. A variety of programming models and their implementation in programming languages are studied in order to illustrate language principles and to allow language comparisons.
- 520. THEORY OF FORMAL LANGUAGES I (3). Pr., EE 330. A detailed study of mathematical models of regular sets, context-free languages and Turing machines; deterministic and non-deterministic models, closure properties, normal forms, simplifications and applications.
- COMPILER CONSTRUCTION (3). Pr., CSE 520. Compiler organization; lexical analysis; LL and LR grammars and deterministic parsing; syntax-directed translation; error detection and recovery; compiler generation tools.
- 521L.COMPILER CONSTRUCTION LABORATORY (1). Coreq., CSE 521. Design and implementation of a high-level language compiler as a comprehensive project.
- 522. SOFTWARE ENGINEERING I (4). LEC. 3, LAB. 3. Pr., CSE 422. Design of reliable software; error causes and consequences; requirements, specifications and objectives related to reliable design; software testing, test case design, test tools, path testing and transaction flows; data validation and syntax charts; programming languages and reliability, proving program correctness and reliability models.
- 523. ADVANCED PROGRAMMING IN ADA (3). Pr., senior standing or departmental approval. Advanced topics in programming using Ada as an example of a language oriented toward software engineering applications; emphasis is placed on features for data abstraction, information hiding and software component libraries.

- 525. OBJECT-ORIENTED PROGRAMMING (3). Pr., CSE 350 and senior standing or departmental approval. Introduction to the object-oriented design methodology emphasizing correct problem decomposition and development of appropriate classes and methods; expenence in working with object-oriented languages, applications and systems.
- 526. DESIGN OF SOFTWARE FOR PARALLEL SYSTEMS (3). Pr., CSE 360 and senior standing. Parallel languages; the design and analysis of parallel algorithms; models of parallel computation; sorting; matrix multiplication, numerical and graph algorithms.
- 527. ADVANCED DESIGN AND ANALYSIS OF ALGORITHMS (3). Pr., CSE 360. Algorithm design theory; computational complexity: relationship of data structures to algorithm design; study of design strategies including divide-and-conquer, the greedy method, dynamic programming, basic search and traversal techniques, backtracking, branch-and-bound, algebraic simplification and transformations; lower bound theory; study of NP-hard and NP-complete problems.
- 530. DESIGN ISSUES IN COMPUTER ARCHITECTURES (3). Pr., CSE 405 or EE 430. Formal comparison of computer architectures, emphasizing the interface between hardware and software. Includes functional requirements analysis; memory systems design; pipeline design; instruction set design; and quantitative evaluation of computer performance.
- 532. DESIGN AND ANALYSIS OF COMPUTER NETWORKS (3). Pr., CSE 432 or departmental approval. Indepth treatment of issues in design of computer networks, including tradeoffs and methods for network performance evaluation. (Credit is not allowed for both EE 532 and CSE 532.)
- 533. PARALLEL PROCESSING (3). Pr., CSE 405 or EE 430. Hardware and software elements of multiprocessors, multicomputers, pipeline and array machines and data flow architectures; design principles related to machine structures, control software and hardware, data storage and access, programming languages and application algorithms. (Credit is not allowed for both EE 533 and CSE 533.)
- 534. DISTRIBUTED-MEMORY MULTIPROCESSORS I (3). Pr., CSE 405 or EE 430 or departmental approval. Architecture, specification methodologies and programming languages for distributed-memory multiprocessor systems.
- 540. FUNDAMENTALS OF COMPUTER GRAPHICS SYSTEMS (3). LEC. 2, LAB. 3. Pr., CSE 220. Hardware and software components of computer graphics systems; display files, two-dimensional and three-dimensional transformations, clipping and windowing, perspective, hidden-line elimination and shading; interactive graphics; survey of applications.
- 541. USER INTERFACE DESIGN AND DEVELOPMENT (3). Pr., CSE 350, 422. Introduction to the design of user interfaces; relationship to human-computer interaction; interface quality and methods of evaluation; dialogue tools and techniques; user-centered design and task analysis; prototyping and implementation tools and environments.
- ARTIFICIAL INTELLIGENCE I (4). LEC. 3, LAB. 3. Pr., CSE 360 or departmental approval. Introduction to machine intelligence; computer vision; search; logic and deduction; abduction, uncertainty and expert systems.
- 561 ARTIFICIAL INTELLIGENCE II (3). Pr., CSE 560. Introduction to natural language understanding, managing plans of action, language comprehension and machine learning.
- LOGIC PROGRAMMING (3). Pr., CSE 324 or departmental approval. Introduction to logic programming through representation, style, data structures, program verification and implementation using Prolog.
- 571-572. SENIOR DESIGN PROJECT (3-2). Pr., CSE 422 and senior standing. Development of requirement definitions, architectural design specification, detailed design specification, testing plan and documentation for the software and/or hardware components of a comprehensive project.
- SPECIAL TOPICS (CREDIT TO BE ARRANGED.) Pr., departmental approval. May be taken more than one quarter.
- 591. FOUNDATIONS OF COMPUTER SCIENCE I (5). Pr., admission to the M.C.S.E. degree program. Data structures and algorithms; abstract data types; analysis of time space design considerations; applications and implementations.
- 592. FOUNDATIONS OF COMPUTER SCIENCE II (3). Pr., admission to the M.C.S.E. degree program. Mathematical foundations of computer science; recurrence equations; partially ordered structures; logic; formal machines and computability; engineering applications.
- 593. FOUNDATIONS OF COMPUTER SCIENCE III (5). Pr., admission to the M.C.S.E. degree program and CSE 591. Topics in systems software including assembers, macro processors, compilers and operating systems.

## Consumer Affairs (CA)

Professors Warfield, Head, McCord and Trentham
Associate Professors Anderson, Barry, Brannon, Forsythe, Shanley and Slaten
Assistant Professors Aycock, Cavender, Centrallo, Clem, Kim, Potter, Presley and Ulrich
Instructor Bunn

- DRIENTATION TO INTERIOR ENVIRONMENTS (1). Introduction to key elements in the field of interior environments. Overview of the academic program of study.
- 115. THE TEXTILE INDUSTRIAL COMPLEX (5). Introduction to the composition, characteristics and products of the textile industrial complex. Includes fiber procedures, textile manufacturers, dyers, finishers, apparrel manufacturers and retailers.
- 116. ART FOR LIVING (3). A working knowledge of basic concepts in the organization and evaluation of design with emphasis placed upon the contribution of design and color as enrichment of individual and family environment.
- TECHNICAL DRAWING AND DESIGN (3). LEC. 1, STUDIO 6. Pr., CA 100. Drawing techniques and conventions employed in technical presentations of designs of interior spaces.
- SPATIAL ANALYSIS (3). LEC. 1, STUDIO 6. Pr., CA 100 and 116. Principles and elements of threedimensional design, with particular application to three-dimensional spatial design.
- APPAREL PRODUCT DEVELOPMENT I (4). LEC. 2, LAB. 6. Pr., CA 115. Introduction to the apparel
  design and pattern making concepts incorporating both manual and computer-aided design technology.
- 205. SOCIAL PSYCHOLOGY OF CLOTHING (3). Pr., CA 115 or equivalent. Aesthetic, functional and technological factors as they interact to determine the meaning and use of clothing and textiles in culture.
- 206. CUSTOM APPAREL PRODUCTION (3). LEC. 2, LAB. 4. Custom apparel production techniques and fabric analysis for the production of better-priced, couture apparel and production samples. A grade of C or higher is required to advance to CA 505.
- 215. SURVEY OF THE DECORATIVE ARTS (5). Pr., AT 171 or 172 or 173 and CA 100. A survey of the development of furniture styles within a cultural and historical framework.
- 216. ART FOR LIVING II (3-5). (3) LEC. 2, LAB. 2. (5) LEC. 2. LAB. 6, Pr., CA 116. Continuation of the individual's artistic environment with emphasis on the application of principles of design and color to specific problems of everyday life.
- RESIDENTIAL SPACE PLANNING (4). LEC. 2, STUDIO 6. Pr., CA 100, 120, 121. Analysis and development of residential space design. Survey of residential building materials, systems and operations. Introduction to design communication using two-dimensional drawings, schedules and specifications.
- 222. FURNISHINGS FOR INTERIORS (4). Pr., CA 100, 116 or equivalent. Introduction to the functional and aesthetic aspects of furnishing residential spaces. An application of principles of color and design in furnishings plans. Overview of decorative and functional materials and components.
- 223. RESIDENTAL INTERIORS I (4), LEC. 3, STUDIO 3, Pr., CA 100, 120, 121, 221, 222, 224. Coreq., CA 215. Fundamentals of design process for interior space. Methods of establishing design programming and conceptualization from data gathering and problem solving techniques. Organization of design presentation.
- FUNDAMENTALS OF VISUAL PRESENTATION (3). STUDIO 9. Pr., CA 100, 120, 121, 221. Basic skills, materials and techniques employed in the visual and verbal presentation of interior furnishings designs.
- 226. APPAREL DESIGN (3). STUDIO 9. Pr., CA 115, 116. Principles of apparel line development, structure and production incorporated into the design of apparel within the fashion and cultural context. Principles of computer-aided design are integrated.
- APPAREL PRODUCTION MANAGEMENT I (4), LEC. 2, LAB. 6. Pr., CA 115, 140. Introduction to the apparel industry methods, technology and terminology.
- 255. TEXTILES FOR INTERIORS (3). Pr., CA 115 or departmental approval. Fibers, yarns, fabrics and finishes of textile products with emphasis in their application to interiors. Credit will not be allowed for both CA 305 and CA 255.
- TEXTILES (5). Pr., CH 203. Polymers, fibers, yarns, fabrics and finishes in their relationship to apparel and household textiles. Credit will not be allowed for both CA 305 and CA 255.
- 315. SURVEY OF THE DECORATIVE ARTS II (3): Pr., CA 215. Historical and cultural survery of the minor decorative arts; glass, ceramics, porcelains, metals and textiles.
- 316. FASHION ANALYSIS (3). Pr., CA 116. The dynamic nature of fashion and the interacting forces which shape fashion trends in apparel.

- NON-RESIDENTIAL INTERIORS I (4), LEC. 2, STUDIO 6, Pr., CA 100, 120, 121, 221, 222, 224.
   Analysis and development of non-residential design. Exploration and application of techniques of project presentation.
- MERCHANDISE PLANNING AND CONTROL (5). Pr., CA 115, MT 331, AC 211. Application of principles of merchandise management and retail buying to the retailing of consumer goods and services.
- PROFESSIONAL PLANNING AND DEVELOPMENT (1). LAB. 2. Pr., junior standing or departmental
  approval. Professional development course highlighting personal goals and related career opportunities.
- 333. LIGHTING DESIGN (5). LEC. 3, STUDIO 6. Pr., CA 100, 120, 121, 215, 221, 222, 223, 224, 324. Application of functional and aesthetic concepts and techniques of lighting design. Evaluation of materials and controls, energy utilization, aesthetic quality. Lighting design layouts and specifications.
- 334. INTRODUCTION TO APPAREL, TEXTILES AND MERCHANDISING INTERNSHIP (1). LAB. 2. Pr., CA 330. Prepares students for maximum utilization of supervised professional internship in apparel, textiles or retailing.
- ORIENTATION TO INTERNSHIP IN INTERIOR ENVIRONMENTS (1). Pr., CA 100, 120, 121, 215, 221, 222, 223, 224, 255, 324 and approval of internship application by INE faculty. Preparatory course for INE internship.
- APPAREL PRODUCTION MANAGEMENT II (5). LEC. 2, LAB. 6, Pr., CA 240. Coreq., CA 305. Planning and problem-solving throughout the apparel production process.
- 344. CODES AND ACCESSIBILITY (3). Accessibility needs of the physically handicapped in residential and non-residential environments. Examination of life safety codes and their effects on both environments.
- 353. BUSINESS PRACTICES IN INTERIOR ENVIRONMENTS (5). Pr., CA 100, 120, 121, 215, 221, 222, 223, 224. Analysis of current developments in the interior furnishings business market. Professional practices within the business setting. Overview of furnishings merchandising, including purchasing, promotion and salesmanship. Estimation of interior decorative materials.
- ENVIRONMENTAL SYSTEMS/ENERGY MANAGEMENT (3). LEC. 3. Pr., CA 100, 120, 121, 215, 221, 222, 223, 324. Equipment and systems for interior environmental control.
- 399. EXPERIENTIAL LEARNING (1-6). Pr., sophomore standing and departmental approval.
- KITCHEN AND BATH PLANNING (5). LEC. 3, STUDIO 6. Pr., CA 100, 120, 121, 215, 221, 222, 223, 224, 255, 324, 333, 344, 353. Aesthetic and technical elements of kitchen and bath design.
- 423. RESIDENTIAL INTERIORS II (4). LEC. 1, STUDIO 9. Pr., CA 100, 120, 121, 215, 221, 222, 223, 315, 324, 333, 344, 353, 363, 422. Creative development of residential interiors for specific clients focusing on the interrelationships of multiple interior spaces. Strategies used in planning furnishings as a component in the housing market. Introduction to the design team approach.
- 424. NON-RESIDENTIAL INTERIORS II (4). LEC. 2, STUDIO 6. Pr., CA 100, 120, 121, 215, 222, 223, 255, 324, 333, 344, 353. Coreq., CA 363. Analysis and development of non-residential interior spaces and application of human behavioral elements in the design process, CA 363 must be taken concurrently or prior to CA 424.
- GLOBAL ENVIRONMENTAL ISSUES (3). Pr., senior standing. Relationship of higher education and the citizen to global issues that are environmental.
- 436. INTERNSHIP IN INTERIOR ENVIRONMENTS (12). Pr., senior standing; approval of internship application by INE faculty. Supervised professional internship in interior environments.
- 470. HONORS READINGS AND SPECIAL TOPICS (3-6). Pr., membership in University Honors Program, junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor.
- 471. HONORS THESIS (5). Pr., membership in University Honors Program, senior standing, CA 470. Thesis in student's area of interest. Includes library research, field work, data analysis, scientific writing and/or other tasks related to advanced independent research. Open only to students in the Honors Program with consent of the Honors Program Advisor.
- 478. VISUAL MERCHANDISING (3). LEC. 2, LAB. 2. Pr., junior standing, CA 116 or equivalent, MT 331 or departmental approval. Exploration of history, equipment, application and theory of display techniques. Emphasis is on displays in windows and interior store settings.
- 490. INDEPENDENT OR FIELD STUDY (1-8). An individual problems course involving directed readings and/or laboratory or field experiences under the direction of a faculty member on some problem of mutual interest. Field experiences may include work with families, business or industry.

#### ADVANCED UNDERGRADUATE AND GRADUATE

505. ADVANCED PATTERNMAKING (3). STUDIO 9. Pr., CA 140, 206 or equivalent with a grade of C or higher. Design and production of garments utilizing advanced drafting, draping and flat pattern techniques.

- 511. APPAREL DESIGN FOR SPECIAL NEEDS (2). Pr., CA 115, SOC 201, PG 201 and junior standing. Physical, psychological and social facets of selecting, adapting and designing apparel for special needs of people.
- 511L.APPAREL DESIGN FOR SPECIAL NEEDS LABORATORY (2). LAB (4). Pr., CA 395 and junior standing. Coreq. CA 511. Concepts learned in CA 511 are applied to laboratory problems.
- 515. HISTORY OF TEXTILES (5). Pr., HY 101, 102, 103; or HY 121, 122, 123; or U 270, 271, 272; or equivalent. Development of the textile industry and of fabric design from the earliest times to the present day.
- 516. APPAREL QUALITY ANALYSIS (3), Pr., CA 240, 305. Analysis of quality variations of soft goods and study of factors affecting quality of materials, manufacturing processes, markets and resources. Quality will be examined as a management tool for the textile apparel and retail complex.
- 521, WORLD PRODUCTION AND TRADE OF TEXTILES AND APPAREL (5). Pr., CA 305. The role of fiber, textile and apparel industries in the international economy and the international trade agreements that govern them.
- 522. FASHION MERCHANDISING AND RETAIL MANAGEMENT (3). Pr., CA 325, MN 310, Application of retail management to the retailing of consumer goods and services.
- 523. ENTREPRENEURSHIP IN PRODUCT DEVELOPMENT AND RETAILING (5). Analysis of consumer, product and market segments for business opportunities in textiles, apparel, beauty, interiors and retailing.
- 524. THEORIES OF FASHION CHANGE (3). Pr., CA 115, 205. Survey of the theories explaining fashion change, diffusion and adoption in textiles, apparel, beauty, interiors and retailing.
- 525. HISTORY OF COSTUME (5). Pr., HY 101, 102, 103; or HY 121, 122, 123; or U 270, 271, 272; or equivalent. Evolution of Western costume from prehistoric time to present day.
- 535. TEXTILE TESTING (5.) LEC. 2, LAB 6. Pr., CA 305 or equivalent. Standard testing procedures and equipment used in determining the physical and chemical characteristics of fibers, yarns and fabrics and of the statistical methods employed in data evaluation.
- 538. STUDY/TRAVEL IN CONSUMER AFFAIRS (2-8). May be repeated for a maximum of 12 undergraduate credits or eight graduate credits. Pr., Human Sciences core and departmental approval. Concentrated study in CA in U.S. or foreign locations which offer unique resources for investigation in one of these content areas. Lectures presented at prearranged points. Papers required on selected phases.
- 540. APPAREL PRODUCT DEVELOPMENT II (5). LEC. 1, LAB. 8. Pr., CA 325 or 340 and 516 and 535. Integration of design, production and marketing of apparel utilizing a team approach and emphasizing decision-making skills.
- SENIOR DESIGN STUDIO (2), STUDIO 6. Pr., CA 206 or equivalent, 340, 505. Execution of original garments utilizing advanced design, patternmaking and production techniques.
- 560. TEXTILE FINISHES (4). Pr., CA 305 or equivalent, junior standing. Chemistry and mechanics involved in finishing textile materials. Properties of finished fabrics related to end use.
- 560L.TEXTILE FINISHES LABORATORY (1). LAB. 3. Coreq. CA 560. Techniques of textile linishing. Analysis and evaluation of finishes.
- 580. PROBLEMS IN DESIGN. A. APPAREL: B. TEXTILE DESIGN; C. VISUAL MERCHANDISING; D. INTERIOR ENVIRONMENTS (3-5), LEC. 1, LAB. 9-12, Pr., for A, CA 555 or equivalent; for B, C and D, foundation courses in the field, departmental approval. Creative work integrating methods, materials and processes in solution of specified design problems. May be repeated and combined for a maximum of 10 hours.
- 581. INTERNSHIP IN APPAREL, TEXTILES AND MERCHANDISING (12). Pr., CA 334 and 540, 325 or 555 and approval of internship supervisor. Supervised professional experience with a domestic or global firm in apparel design, apparel production management or fashion merchandising.

# Counseling and Counseling Psychology (CCP)

Professors Buckhalt, Acting Head, and Moracco Associate Professors Byrd and Pipes

Assistant Professors Brazelton, Carney, Cobia, Liddle and Middleton

- 101 CAREER EXPLORATION AND PLANNING (2). Helps undeclared freshmen in planning careers.
- 223. HUMAN RELATIONS TRAINING FOR THE HEALTH PROFESSIONS (2). Human relations skills for health care providers; study and practice of the communication process with individuals and in small groups. Limited to students in the health professions.
- 321. LEADERSHIP IN STUDENT DEVELOPMENT (3). Pr., sophomore standing and departmental approval. For students interested in increasing their understanding and skills in group dynamics and leadership. Attention is paid to application of course content and activities to current co-curricular programs in which students are involved.

322. HUMAN RELATIONS TRAINING IN TEACHER EDUCATION (2). Students are trained in facilitative communication skills which would lead to (1) a deeper understanding of students and the learning process; (2) a more positive working relationship with peers; (3) more efficient methods of classroom management and conflict resolution; and (4) more effective use of support personnel in the school system.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- COUNSELING AND HUMAN SERVICES (4). Counseling concepts and skills appropriate in the helping professions. Not open to graduate students in Counselor Education.
- 522. INTRODUCTION TO COUNSELING THE EXCEPTIONAL INDIVIDUAL (4). Pr., CCP 322. Development of interpersonal relationship skills for persons interested in working with the disabled-physical, mental, social or mental retardation. Emphasis on unique aspects of these skills to the handicapped.
- 523. MEDICAL ASPECTS OF DISABILITY (3). Pr., departmental approval. Orientation to medical aspects of the disabled individual. Understanding and working cooperatively with medical personnel effectively in the rehabilitation process.
- 524. COMMUNITY RESOURCES IN REHABILITATION (3). Utilization of community resources in furthering the rehabilitation of the disabled individual; the vocational rehabilitation worker as a referral source; and the utilization of those in the community in a coordinated approach to total rehabilitation of the individual.
- ADJUSTMENT ASPECTS OF DISABILITY (3). Psychological and social variables associated with adjustment to disability.

## Criminal Justice (CJ)

(Department of Political Science)
Assistant Professors Robinson, *Director*, and Kelly
Visiting Assistant Professor Abbett
Visiting Instructor Houston

- SURVEY OF CRIMINAL JUSTICE (5). Pr., sophomore standing. Introduction to the philosophical and historical backgrounds; agencies and processes; purposes and functions; administration and technical problems; career orientation. (Same as PO 260.)
- CRIMINAL EVIDENCE (3), Pr., CJ/PO 260. Comprehensive analysis of the rules of evidence with particular emphasis on evidence obtained through search, seizure and arrest.
- 262. CRIMINAL INVESTIGATION (5). Pr., CJ/PO 260, sophomore standing. Criminal investigation procedures, including theory of investigation, case preparation, specific techniques for selected offenses, questioning of suspects and witnesses, modus operandi and problems in criminal investigation.
- 335. CRIMINAL LAW FOR POLICE OFFICERS (3). Pr., CJ/PO 260. Statutory criminal law and criminal court procedures as applicable to the law enforcement function. Considers the impact of statutory law and common law on police procedures and policies.
- 336. CRIMINAL JUSTICE (3). Pr., sophomore standing. An in depth examination of the various procedural due process rights of the Constitution as they relate to the criminal processes — historical development, modern interpretations and further trends.
- 451. CRIMINAL JUSTICE READING COURSE, (MAXIMUM OF 5 CREDITS). Pr., CJ/PO 260, departmental approval. Readings in criminal justice specialization by agreement of student and instructor.
- 464. INTERNSHIP (5-10). Pr., CJ/PO 260 plus 10 additional CJ hours. Internship is with an approved law enforcement, prosecutive, corrections or youth services agency under joint supervision of the agency and the CJ internship advisor. Written reports, conferences and a linal seminar on the internship are required.

- 504. AMERICAN CONSTITUTIONAL LAW IV (5). Supreme Court opinions defining due process in national and state administration of criminal justice and juvenile justice.
- 512. COMPARATIVE CRIMINAL JUSTICE SYSTEMS (5). Pr., CJ/PO 260. Institutional comparison and study of social control problems and policies, and functional analysis of the criminal justice systems of selected countries. (Same as PO 312).
- 561. SEMINAR IN CRIMINAL JUSTICE PROBLEMS (5), Pr., CJ/PO 260 plus 10 additional CJ hours. Treatment and analysis of selected issues and policies concerning the criminal justice system.
- 565. CRIMINAL JUSTICE ORGANIZATION AND ADMINISTRATION (5). Pr., CJ/PO 260 and junior standing. Principles of organization and administration applied to criminal justice system; description of U.S. criminal justice system; explanation of system in terms of organization and theory and behavior.

## Curriculum and Teaching (CT)

Professors Weaver, Head. Easterday, Graves, Ley, Rowsey, Silvern and Taylor Associate Professors Baird and Johnson

Assistant Professors Ash, S. Barry, N. Barry, Boyd, Kamen, Swetman and Villaume

Areas of Specialization. Early Childhood Education, Elementary Education, English Education, Language Arts Education, Foreign Language Education, Mathematics Education, Music Education, Reading Education, Science Education, Social Science Education.

## EARLY CHILDHOOD EDUCATION (CTC)

- 102. ORIENTATION (1). Helps new students and transfers from other curricula to understand teacher education and teaching as a profession.
- 301. THE CHILD'S CONSTRUCTION OF SOCIAL COGNITION (3). Examination of constructivist theory and research related to the development of social cognition and pro-social behavior.
- THE CHILD'S CONSTRUCTION OF NUMBER (3). Examination of constructivist theory and research related to the development of mathematical and physical knowledge.
- 303. THE CHILD'S CONSTRUCTION OF THE SYMBOLIC FUNCTION (4). Examination of constructivist theory and research related to the development of symbolic function and representational forms.
- 315. LANGUAGE DEVELOPMENT: IMPLICATIONS FOR THE CHILDHOOD EDUCATOR (4). Applications of language development theories to teaching children. Emphasis on effects theories have on curriculum and teaching.
- 320. A WORKING THEORY FOR THE CONSTRUCTIVIST EDUCATOR (3). Pr., FED 300 or equivalent, admission to Teacher Education. For pre-service teachers preparing to teach at the pre-school and pnmary school levels. Students build knowledge of constructivist theory.
- 321. THE NATURE OF THE LEARNER IN EARLY CHILDHOOD CLASSROOMS (3). Pr., CTC 320. For pre-service teachers preparing to teach at the pre-school and primary school levels. Students build knowledge of how young children interact with the realms of knowledge evident in the early childhood classroom environment.
- SURVEY OF EARLY CHILDHOOD EDUCATION (3). Survey of the teaching profession, the nature of programmatic variation at the early childhood level.
- 420. THE CONSTRUCTIVIST TEACHER: STRATEGIES AND TECHNIQUES (3), Pr., CTC 321. Coreq., CTC 495. For pre-service teachers preparing to teach at the pre-school, kindergarten and/or primary school levels. Students build a working knowledge of established constructivist curriculum strategies and techniques, as well as a set of guidelines on which to base wise curriculum decision-making.
- 421. THE CONSTRUCTIVIST TEACHER: GROWING PROFESSIONALLY (3). Pr., CTC 321. Coreq., CTC 495. For pre-service teachers preparing to teach at the pre-school, kindergarten and/or primary school levels. Students build a working knowledge of the roles and responsibilities of an early child-hood teacher.
- 425. PROFESSIONAL INTERNSHIP (15). Pr., senior standing, admission to Teacher Education prior to Internship, appropriate professional courses. Provides supervised, on-the-job experiences in a school, college or other appropriate setting. These experiences will be accompanied by regularly scheduled discussion periods to provide positive evaluation and analysis of the intern experience.
- 446. DIRECTED INDEPENDENT STUDY (1-10). The student's learning efforts are guided toward desired objectives. Includes evaluation by professor and student at regular intervals.
- SPECIAL TOPICS (1-5). Students and professors pursue cooperatively selected concepts and theoretical formulations, normally in small groups.
- 488. READINGS FOR HONORS (1-10). Individual readings program for students in the Honors Program. Open only to students in the Honors Program with the consent of the Honors advisor.
- 489. HONORS THESIS (3-6), Pr., senior standing in the Honors Program. May be repeated for a maximum of six hours credit. The student thesis is finalized in this course. Open only to students in the Honors Program with the consent of the Honors advisor.
- 495. PRACTICUM (1-10). Provides experiences relating theory and practice, usually carried on simultaneously.

# ELEMENTARY EDUCATION (CTE)

Programs in Elementary Education lead to certification in grades 1-6. Endorsements for Middle School certification, grades 4-8, in certain specific teaching fields are also available.

- ORIENTATION (1). Helps new students and transfers from other curricula to understand teacher education and teaching as a profession.
- CURRICULUM I, LANGUAGE ARTS (5), LEC. 3, LAB. 4. Pr., admission to Teacher Education, junior standing.
- CURRICULUM I, SOCIAL SCIENCE (5). LEC. 3, LAB. 4. Pr., admission to Teacher Education, junior standing.

- CURRICULUM II, MATHEMATICS (5). LEC. 3, LAB. 4, Pr., admission to Teacher Education, jurior standing.
- CURRICULUM II, NATURAL SCIENCE (5), LEC. 3, LAB. 4. Pr., admission to Teacher Education, junior standing.
- 425. PROFESSIONAL INTERNSHIP (15). Pr., senior standing, admission to Teacher Education prior to Internship, appropriate professional courses. Provides supervised, on-the-job experiences in a school, college or other appropriate setting. These experiences will be accompanied by regularly scheduled discussion periods to provide positive evaluation and analysis of the intern experience.
- 446. DIRECTED INDEPENDENT STUDY (1-10). The student's learning efforts are guided toward desired objectives. Includes evaluation by professor and student at regular intervals.
- SPECIAL TOPICS (1-5). Seniors and professors pursue cooperatively selected concepts and theoretical formulations.
- 451. ANALYSIS OF ELEMENTARY INSTRUCTIONAL STRATEGIES (3). LEC. 4, LAB. 2. Pr., professional Internship. Patterns of elementary curriculum and organization for instruction, including the analysis of previous and current laboratory experiences in education. Attention given to implementation of systems approach in student's area of specialization.
- 488. READINGS FOR HONORS (1-10). Individual readings program for students in the Honors Program. Open only to students in the Honors Program with the consent of the Honors advisor.
- 489. HONORS THESIS (3-6). Pr., senior standing in the Honors Program. May be repeated for a maximum of six hours credit. The student thesis is finalized in this course. Open only to students in the Honors Program with the consent of the Honors advisor.
- 495. PRACTICUM (1-10). Provides experiences relating theory and practice, usually carried on simultaneously.

## ENGLISH LANGUAGE ARTS EDUCATION

(See Secondary Education [CTS] and Middle School Education [CTD]).

### FOREIGN LANGUAGE EDUCATION

(See Secondary Education [CTS]).

### MATHEMATICS EDUCATION

(See Secondary Education [CTS] and Middle School Education [CTD]).

### MIDDLE SCHOOL EDUCATION (CTD)

- TEACHING MATHEMATICS: MIDDLE SCHOOL (4). LEC. 3, LAB. 2. Pr., FED 300 and departmental approval. Specific teaching strategies for a comprehensive middle school mathematics program.
- 419. THE MIDDLE SCHOOL (5). LEC. 4, LAB. 3. Pr., FED 300, admission to Teacher Education, junior standing. Historical perspective and rationale for the development of the middle school program. Analysis of middle school organization and selected programs. Laboratory experiences are required.
- 425. PROFESSIONAL INTERNSHIP (15). Pr., senior standing, admission to Teacher Education prior to Internship, appropriate professional courses. Supervised teaching in a school, accompanied by scheduled discussions to analyze and evaluate the intern's experience.
- DIRECTED INDEPENDENT STUDY (1-10). Planned individual inquiry, including evaluation by professor and student at regular intervals.
- 450. SPECIAL TOPICS (1-5). Cooperative pursuit of selected concepts and theories, normally in small groups.
- 495. PRACTICUM (1-10). Experiences allow individual students to relate theory and practice.

#### MUSIC EDUCATION (CTM)

Students majoring in music education must demonstrate functional keyboard skills appropriate to their chosen area of concentration. The keyboard proficiency examination is taken prior to enrollment in any CTM course. Additional degree requirements are available from the Dean of Education.

- 102. ORIENTATION (1). Helps students to understand teacher education and teaching as a profession as well as become acquainted with the preparation program in music education.
- MUSIC AND RELATED ARTS (3-5). Pr., MU 371 or equivalent. Musical, rhythmic and artistic activity program in the context of laboratory experiences with children.
- 394. TEACHING ELEMENTARY INSTRUMENTAL MUSIC (3). LEC. 2, LAB. 2. Pr., four hours of class instruments. Methodology, materials and organization for beginning instrumental music programs; includes laboratory experiences with children.
- 396. EARLY CHILDHOOD AND ELEMENTARY MUSIC PROGRAMS (3). LEC. 2, LAB. 2. Pr., CTM 304 or departmental approval. Methodology, materials and activities for music programs in grades N-6; includes laboratory experiences with children.

#### Curriculum and Teaching

- 425. PROFESSIONAL INTERNSHIP (15). Pr., senior standing, admission to Teacher Education prior to Internship, appropriate professional courses. Provides supervised, on-the-job experiences in school, college or other appropriate setting. These experiences will be accompanied by regularly scheduled discussion periods to provide positive evaluation and analysis of the intern experience.
- 446. DIRECTED INDEPENDENT STUDY (1-10). Planned individual inquiry including evaluation by professor and student at regular intervals.
- SPECIAL TOPICS IN MUSIC EDUCATION (1-5). Cooperative pursuit of selected concepts and theories. May be repeated not to exceed six hours.
- 488. READINGS FOR HONORS (1-10). Individual readings program for students in the Honors Program. Open only to students in the Honors Program with the consent of the Honors advisor.
- 489. HONORS THESIS (3-6). Pr., senior standing in the Honors Program. May be repeated for a maximum of six hours credit. The student thesis is finalized in this course. Open only to students in the Honors Program with the consent of the Honors advisor.
- 495. PRACTICUM (1-10). Experiences allow individual students to relate theory to practice.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 593. MATERIALS AND ORGANIZATION OF SCHOOL ORCHESTRAS (3). Pr., departmental approval. Administrative procedures, instructional strategies and materials for intermediate and advanced school orchestra programs.
- 594. MATERIALS AND ORGANIZATION OF SCHOOL BANDS (3). Pr., departmental approval. Administrative procedures, instructional strategies and materials for intermediate and advanced school band programs.
- 595. MATERIALS AND ORGANIZATION OF SCHOOL CHOIRS (3). Pr., departmental approval, Administrative procedures, instructional strategies and materials for school choral programs.
- 596. CURRENT TRENDS IN EARLY CHILDHOOD AND ELEMENTARY MUSIC (4). Pr., CTM 396 or departmental approval. Advanced study and evaluation of skills, techniques, materials, theories and trends in music teaching.
- 597. MATERIALS AND ORGANIZATION OF GENERAL MUSIC PROGRAMS (4). Pr., CTM 396 or departmental approval. Scope and sequence of school general music programs with emphasis on materials and methodologies for post-elementary programs.

## READING EDUCATION (CTR)

- 201. COLLEGE READING AND STUDY SKILLS (3). LEC. 2, LAB. 2. General elective. Comprehension skills for college students, including classroom performance skills, reading efficiency techniques, vocabulary development and study skills. Students will utilize own content area textbooks.
- 370. FUNDAMENTALS OF READING INSTRUCTION (5). LEC. 3, LAB. 4. Pr., FED 300 and junior standing. Develops competencies in the teaching of reading. Introduces student to the basic aspects of teaching reading. Fundamental constructs considered are readiness, informal diagnosis, reading skills, planning, approaches, enjoyment of reading, learners with special needs. Laboratory experiences with children.
- 371. FUNDAMENTALS OF READING INSTRUCTION II (5). LEC. 3, LAB. 4. Pr., CTR 370 or departmental approval. Builds on CTR 370 in developing competencies in the teaching of reading. Topics include word recognition, comprehension and study skills (teaching level); the basal reader and individualized approaches; lesson planning; diagnostic teaching of reading. Commercial materials are evaluated and teacher-made materials are produced. Laboratory experiences with children.
- 446. DIRECTED INDEPENDENT STUDY (1-10). Planned individual inquiry, including evaluation by protessor and student at regular intervals.
- SPECIAL TOPICS (1-5), Seniors and professors pursue cooperatively selected concepts and theoretical formulations, normally in small groups.

- 570. READING IN THE CONTENT AREAS OF THE ELEMENTARY SCHOOL (5), LEC. 3, LAB. 4, Pr., CTR 370 and junior standing. Develops competencies in teaching functional reading in the elementary school. Directed reading activities, specialized skills and study skills stressed.
- 571. READING IN THE CONTENT AREAS OF THE SECONDARY SCHOOL (5). Pr., admission to Teacher Education. Reading problems in content areas of the secondary school and special methods of helping students overcome these problems.
- 576. THE READING OF ADOLESCENTS (5). Pr., CTR 571 or departmental approval. Use of adolescent and popular adult literature in the secondary school reading program. Motivation of the reluctant reader, criteria for evaluating reading materials; and self-selection/self-pacing reading programs in the English or reading classroom.

### SCIENCE EDUCATION

(See Secondary Education [CTS] and Middle School Education (CTD]).

## SECONDARY EDUCATION (CTS)

Undergraduate students must select two teaching majors unless they select the composite majors offered in English Language Arts, Mathematics, General Science and Social Science. These programs lead to certification at the high school level, grades 7-12. Endorsements for certification at the Middle School level, grades 4-8 are also available, as is specific certification at only the Middle School level.

For some courses, there are special sections denoted by a letter code corresponding to the areas of specialization. These areas are: (D) Foreign Language, (G) English, (H) Mathematics, (K) Science and (L) Social Science.

- 102. ORIENTATION (1). Helps new students and transfers from other curricula to understand teacher education and teaching as a profession.
- 110-111-112. DEVELOPMENTAL STUDIES I, II, III (2). (CREDIT NOT COUNTED TOWARD GRADUA-TION.) Develops skills conducive to successful college study. Emphasis on reading skills and their relation to other language arts. Attention is given to study skills, communication skills for formal and informal use and cultural aspects of communication.
- EDUCATION (2). Helps prospective teachers in the guidance of students. (A) Art Expression, (J)
  Music Experiences, (Q) Materials of Instruction.
- 201L, EDUCATION (1). LAB. 2. Laboratory will be taken concurrently with the corresponding lecture course or independent of the lecture.
- 204. FUNDAMENTALS OF COMPUTER PROGRAMMING. (3). Pr., MH 162 and departmental approval. Introduction to microcomputers and computer programming with emphasis on solution of mathematical problems using BASIC. String variables and introduction to graphics are included.
- 205. PROBLEMS IN COMMUNICATION (3). LEC. 2, LAB. 2, Language usually taught in the secondary English classrooms with special attention to questioning techniques, student/leacher interaction, standard/non-standard English, semantics and oral/written English.
- 375. SCIENCE FICTION IN THE SECONDARY SCHOOL PROGRAM (5). Selected works of science fiction with emphasis on use of this genre to augment the teaching in the content areas of the secondary school curriculum.
- APPLIED LINGUISTICS FOR FOREIGN LANGUAGE TEACHERS (3). The application of linguistics in the teaching of foreign languages.
- TECHNOLOGY IN SCIENCE EDUCATION (3). LEC. 2, LAB. 2. Pr., EM 200 and admission to Teacher Education. Computer hardware and software for effective science teaching.
- 402. MATHEMATICS PROGRAM AND TEACHING I (3). LEC. 2, LAB. 2. Emphases are diagnostic and prescriptive procedures, theories of learning applied to managing and evaluating mathematics programs.
- 403. MATHEMATICS PROGRAM AND TEACHING II (3), LEC. 2, LAB. 2. Emphases are historical bases for school mathematics programs, planning, procedures, instructional strategies and problem solving.
- 404. TEACHING MATHEMATICS: APPLICATION AND TECHNOLOGY (3). LEC. 2, LAB. 2. Uses of calculators and computers in school mathematics and the teaching of applications in mathematics. For math education majors (composite program) who have completed appropriate math/computer science requirements.

Each of the following two courses, CTS 405 and 410, is sectioned as follows: (D) Foreign Language, (K) Science and (L) Social Science.

- 405. TEACHING IN SECONDARY SCHOOL (3), LEC. 2, LAB. 2. Pr., FED 350 or departmental approval.
- 410. PROGRAM IN SECONDARY SCHOOL (3), LEC. 2, LAB. 2, Pr., FED 350 or departmental approval.
- 411. TEACHING ENGLISH: LANGUAGE AND LINGUISTICS (3). LEC. 2, LAB. 2. Pr., FED 350 or departmental approval. Specific teaching strategies in language and linguistics.
- TEACHING ENGLISH: LITERATURE (3). LEC. 2, LAB. 2. Pr., FED 350 or departmental approval. Specific teaching strategies in literature.
- TEACHING ENGLISH: RHETORIC AND COMPOSITION (3). LEC. 2, LAB. 2. Pr., FED 350 or departmental approval. Specific teaching strategies in rhetoric and composition.
- 415. CURRENT TRENDS AND PRACTICES IN AREAS OF SPECIALIZATION (3). LEC. 2, LAB. 2. Pr., FED 350 or departmental approval. The study and application of contemporary curriculum and instructional trends and practices within the areas of specialization of the secondary school program.
- THE SECONDARY SCHOOL (5). Current thinking about the organization and purpose of secondary schools.

- 421. SOCIAL SCIENCE CONCEPTS AND METHODS (5). Pr., 25 hours in social sciences. The structure, key concepts and methods of investigation of the social sciences. Emphasis is placed on those social sciences taught in secondary schools.
- 425. PROFESSIONAL INTERNSHIP (15). Pr., senior standing, admission to Teacher Education prior to Internship, appropriate professional courses. Supervised teaching in a school, accompanied by scheduled discussions to analyze and evaluate the intern's experience.
- 446. DIRECTED INDEPENDENT STUDY (1-10). Planned individual inquiry, including evaluation by professor and student at regular intervals.
- SPECIAL TOPICS (1-5). Cooperative pursuit of selected concepts and theories, normally in small groups.
- 488, READINGS FOR HONORS (1-10). Individual readings program for student in the Honors Program. Open only to students in the Honors Program with the consent of the Honors advisor.
- 489. HONORS THESIS (3-6). Pr., senior standing in the Honors Program. May be repeated for a maximum of six hours credit. The student thesis is finalized in this course. Open only to students in the Honors Program with the consent of the Honors advisor.
- 495. PRACTICUM (1-10). Experiences allow individual students to relate theory and practice.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 501. LANGUAGE STUDY FOR TEACHERS (5). Linguistics in the school curriculum; the child's acquisition of syntax; theories of teaching usage, dialectology, lexicography and grammar; English as a second language, non-verbal communication in the classroom; research studies in language and linguistics and their applications to classroom teaching.
- 502. RHETORIC AND COMPOSITION FOR TEACHERS (5). Topics and current trends in teaching rhetoric and composition. Classical and new rhetorics; theories of paragraph analysis; behavioral approaches to composition; pupil motivation and the composing process; current research; evaluation.

### SOCIAL SCIENCE EDUCATION

(See Secondary Education [CTS] and Middle School Education [CTD]).

### Discrete and Statistical Sciences (DMS)

Professors Phelps, *Head*, Henderson, Hoffman, Hudson, Johnson, Lindner, Wall and Williams Alumni Professors Rodger and Teirlinck

> Associate Professors Hankerson, Harris, Jenda, Leonard and Veeh Assistant Professors Menezes, West and Zinner Instructor Murphy

#### APPLIED DISCRETE MATHEMATICS

- 263. INTRODUCTION TO DISCRETE ALGORITHMIC MATHEMATICS (3). Pr., MH 266. The fundamental algorithms of discrete mathematics are covered. Integer and number theoretic algorithms; linear programming; combinatorial optimization including graph algorithms; applications.
- DISCRETE MATHEMATICS I (3). Pr., MH 266 or 337. Elementary logic, predicate calculus; induction; finite state machines, deterministic and nondeterministic automata, regular grammars.
- 372. DISCRETE MATHEMATICS II (3). Pr., MH 266 or 337. Equivalence relations, partial order relations, functions, n-ary relations. Graphs: special types, isomorphism, trees, traversal algorithms. Digraphs: transitive closure, connectivity.
- HONORS THESIS (3-6). Pr., Senior status and enrollment in Auburn University Honors Program. May be repeated once for maximum of six hours credit.
- 491. SPECIAL PROBLEMS (1-5). Pr., departmental aproval, junior standing. An individual problems course. Each student will work under the direction of a staff member on some problem of mutual interest.

- 500. MATHEMATICAL MODELING DISCRETE (5). Pr., MH 161. Introduction to mathematical models and related techniques. Course includes general principles involving discrete deterministic problems and a detailed, specific term-project.
- 512. INFORMATION THEORY (5). Pr., MH 264. Discrete probability, information and entropy, channel capacity, and optimal relative input frequencies, variable-length codes and data compression (the Kraft and McMillan inequalities, the Huffman algorithm), block codes and error correction, maximum likelihood decoding, Shannon's Noisy Channel Theorem.
- 513. ALGORITHMIC METHODS IN COMBINATORICS (5). Pr., DMS 575 or CSE 360 or departmental approval. Basic algorithmic and computational methods used in the solution of fundamental combinatorial problems will be studied.

- 515. ALGEBRAIC CODING THEORY I (5). Pr., MH 266 or 337. Binary codes, linear codes, cyclic codes, Hamming codes, BCH codes; maximum likelihood decoding; error detection and correction; coset decoding.
- 516. ALGEBRAIC CODING THEORY II (5). Pr., MH 515. Theory of and implementable algorithms for codes of current practical and theoretical importance. Generalized BCH codes, Reed-Muller codes, Kerdoch and Preparata codes, Reed-Solomon codes, quadratic residue codes, Justesen and concatenated codes, convolution codes.
- 517. COMPUTATIONAL METHODS IN FINITE FIELDS (5). Pr., DMS 263 or MH 266. Structure of finite fields. Computational methods for constructing irreducible polynomials and for factoring polynomials over finite fields. Emphasis on algorithms and their applications to Latin squares, finite geometries, design theory, cryptography and coding theory.
- 518. CRYPTOGRAPHY (5). Pr., MH 266 or 337. Classical cryptosystems, the Data Encryption Standard, one-way functions and relevant number theoretic problems (factoring, primality testing, the discrete logarithm problem), RSA and other public key cryptosystems, digital signatures, authentication protocols.
- 520. COMPUTER ALGEBRA (5), LEC. 4, LAB. 2, Pr., MH 266 or 337. Introduction to Computer Algebra System MAPLE and the theory of Groebner bases over fields, stressing both computational and theoretical aspects. Applications to the ideal membership problem solving systems of polynomial equations, kinematic problems and geometry will be studied.
- 530. THEORY OF DIFFERENCE EQUATIONS (5). Pr., MH 266 or equivalent. Linear difference equations, initial value problems, Green's functions, boundary value problems, system, periodic solutions, nonlinear difference equations, models. Application to discrete math and operations research emphasized.
- 571. LINEAR OPTIMIZATION (5). Pr., MH 266 or 337. Simplex algorithm and duality, shortest path, network flow, minimal cost flow, out-of-kilter method, assignment problems; matching; emphasis on both theory and algorithms for applied problems.
- ENUMERATION (5). Pr., MH 264. Permutations and combinations, generating functions, inclusionexclusion, cycles of permutations, occupancy, partitions, trees, Polya trees,
- 575. GRAPH THEORY (5). Pr., MH 266 or 337. Graph algorithms; matchings, edge-colorings, vertex-colorings and scheduling problems; Hamilton cycles and Euler tours, connectivity, spanning trees, disjoint paths and reliable networks; directed graphs, extremal graph theory; planar graphs.
- 577. COMBINATORIAL DESIGNS (5). Pr., DMS 517 or MH 331. Latin squares, mutually orthogonal latin squares, orthogonal and perpendicular arrays, Steiner triple systems, block designs, difference sets and finite geometries.
- 598. SPECIAL TOPICS (1-5). Pr., departmental approval. Topics may vary as needed. May be taken for credit more than once.

#### STATISTICS

- 215. INTRODUCTORY BIOLOGICAL STATISTICS (5). LEC. 4, LAB. 2. Pr., MH 160. Fall, Winter. Elementary statistics as applied to agriculture and biology including an introduction to empirical frequency distributions, descriptive statistics, elementary probability, sampling, estimation, testing hypotheses, linear regression, correlation and the analysis of variance.
- 216. INTRODUCTORY BIOLOGICAL COMPUTATIONS (3), LEC. 3. Pr., sophomore level. Winter, Spring. Introductory use of the computer for agricultural and biological computations and data reduction. Introduction to FORTRAN programming and to effective and valid use of available program packages in biology.

- 501. BIOLOGICAL STATISTICS (5). LEC, 4, LAB. 2. Pr., MH 161. Fall, Winter, Spring. Basic concepts of experimental statistics, distributions, confidence limits, tests of significance, analysis of variance, linear correlation and regression. For advanced undergraduates and as a beginning course for graduate students in biological sciences.
- 511. SAS PROGRAMMING (2), LEC. 2, Pr., DMS 501 or equivalent and DMS 216 or equivalent. Fall, Spring. Introduction to statistical analysis and management of data files using SAS, The Statistical Analysis System. Data entry and management will be emphasized along with selection and execution of the important statistical procedures.
- 560-561. STATISTICS I, II (5-5). Pr., MH163 and a probability course. Statistical methods. Emphasis on statistical procedures relevant to problems arising in education, sciences, agriculture, etc.
- 562. NONPARAMETRIC STATISTICS (5), Pr., DMS 561. Introduction to nonparametric statistical theory and methods. Order statistics and rank, nonparametric tests of location and scale. Emphasis on fundamental statistical ideas.
- 582. FOUNDATIONS OF STATISTICS FOR SECONDARY SCHOOL TEACHERS* (4). Pr., one course above MH 163. Discrete probability distributions; introduction to statistical inference.

591, TOPICS IN STATISTICS (1-5), (May be repeated for credit). Pr., MH 567 or departmental approval. Mathematical treatment of certain topics in statistics. Topics will vary from year to year and will be chosen from the following: applied stochastic processes, time series, experimental design, sampling theory, non-parametric methods and others.

## Economics (EC)

Professors Laban, Head, Caudill, Ekelund, Hebert, Jackson, Jones, Kaserman, Long, Thompson, Whitten and Yeager

Associate Professors Ault, Barnett, Beard, Beil, Garrison, Gropper, Raymond and Saba Assistant Professors Thomton and Walls

A 2.0 GPA is required for enrollment in any Business course at the 300-level and above. This rule applies to both Business and non-Business students.

- 200. ECONOMICS I (5). Pr., sophomore standing. Economic principles with emphasis on the macroeconomic aspects of the national economy. (Credit not allowed for this course and AEC 200.)
- ECONOMICS II (5). Pr., sophomore standing. Economic principles with emphasis on microeconomic aspects of the economy. (Credit not allowed for this course and AEC 202.)
- 206. SOCIO-ECONOMIC FOUNDATIONS OF CONTEMPORARY AMERICA (3). The social and economic developments which promote an understanding of present day American society. (Credit not allowed for this course and EC 202.)
- 301. ECONOMIC PRINCIPLES AND BUSINESS POLICY (5). An accelerated course in economic principles combining key topics from EC 200 and 202. (Credit not allowed for this course and EC 200 or 202. This course will not count as credit for any economics major).
- 340. ENVIRONMENTAL ECONOMICS (5). Pr., EC 202 or departmental approval. Economic analysis applied to topical environmental issues such as pollution, preservation vs. development, economic growth and population.
- 350. LABOR ECONOMICS (5). Pr., EC 202, junior standing. A theoretical and institutional examination of the labor market, including wage theories, unionism, the economics of collective bargaining and income security.
- 360. MONEY AND BANKING (5), Pr., EC 200 or AEC 200, junior standing. Money, credit and banking including consideration of monetary systems, foreign exchange and commercial banking with relation to the Federal Reserve System.
- STUDENT INTERNSHIP PROGRAM (1-10). Pr., junior standing and selection by faculty committee. S/U grading.
- 433. LAW AND ECONOMICS (5). Pr., EC 202 or departmental approval and junior standing. Description of the many substantive areas in which law has an economic foundation and an analysis of the ways in which law affects economic relations.
- 470. HONORS READINGS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- 471. GOVERNMENT, BUSINESS AND SOCIETY (5). Pr., EC 202 and junior standing. Economic role of government in a free enterprise economy. Emphasis on the application of microeconomic theory to public policy issues.
- 472. HONORS THESIS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- 490. SPECIAL PROBLEMS (1-10). Pr., departmental approval, junior standing. May be repeated. Investigation and research into economic problems of special interest to the student and instructor. S/U grading.

- 551. INTERMEDIATE MICROECONOMICS (5). Pr., EC 202 and junior standing. The theory of pricing under various market conditions and distribution of income among the factors of production.
- 552. COMPARATIVE ECONOMIC SYSTEMS (5). Pr., EC 202 and junior standing. An analysis of the rival economic doctrines of Capitalism, Socialism and Communism.
- 553. ECONOMICS OF GROWTH AND DEVELOPMENT (DESARROLLO ECONOMICO) (5). Pr., EC 200 and junior standing, taught in English or Spanish. Concepts, principles and problems of economic growth and development with consideration of appropriate policies for both underdeveloped and advanced economies.
- 554. HISTORY OF ECONOMIC THOUGHT (5). Pr., EC 202 and junior standing. The development of economic ideas, principles and systems of analysis from early times to the present.
- 555. INDUSTRIAL ORGANIZATION (5). Pr., EC 202 and junior standing. The relationship of market structure to the pricing behavior of business and industry. Selected topics: regulation, research and development and technological change.

- 556. INTERMEDIATE MACROECONOMICS (5). Pr., EC 202 and junior standing. The measurement of national output, income and employment theory, general equilibrium theory and theories of interest, investment and consumption.
- 557 ECONOMIC HISTORY OF EUROPE (5). Pr., EC 200 and junior standing. An analysis of the development of the European economy and the resulting impact on the United States and the world.
- ECONOMIC HISTORY OF THE UNITED STATES (5) Pr., junior standing. The evolution of the American economy from European origins to the present.
- 559. REGIONAL ECONOMIC DEVELOPMENT (5). Pr., EG 200 and junior standing. Analytical discussion of the principles associated with the regional development of a national economy. Emphasis is on the problems of lagging regions and on the experience of the United States.
- INTERMEDIATE MONETARY THEORY AND POLICY (5). Pr., EC 360 and junior standing, Attention given to theoretical and empirical studies. Readings from original sources required.
- 565. PUBLIC FINANCE (5). Pr., EC 202 and junior standing. An examination of the economic rationale of the public sector; supply and demand of public goods. Principles of efficient and equitable taxation and government spending.
- 568. BUSINESS HISTORY OF THE UNITED STATES (5), Pr., junior standing. The origins and developmental patterns of American business with an emphasis on the role of the business community in the economic and political evolution of the United States.
- INTERNATIONAL ECONOMICS (5). EC 200, 202 and junior standing. An examination of the pure theory and monetary aspects of international trade.
- 575. AUSTRIAN ECONOMICS (5). Pr., EC 200 and 202 and junior standing. Introduction to the methodology of the Austrian School, its contributions and extensions of the core theory.
- 580. BUSINESS AND ECONOMIC FORECASTING (5). Pr., EC 200, 202 and MN 301 or departmental approval and junior standing. Forecasting, with emphasis on the interpretation of macroeconomic forecasting methods and the development of competency in forecasting at the level of the firm.

## Educational Foundations, Leadership and Technology (EFLT)

Professors Burkhalter, Gorrell, G.M. Halpin, G.W. Halpin, Kaminsky, Head, Kunkel, Lauderdale, Sauser, Spencer and Trentham

Associate Professors Bannon, Hardin, Lechner, Ledford and Miller Assistant Professors Bettis, Hackett, Hancock, Kochan, Rucinski, Sabo, Shannon and Whang

## EDUCATIONAL LEADERSHIP (EDL)

 ORGANIZATION AND SUPPORT OF PUBLIC EDUCATION (2). The organization, administration and financing of American public education.

### EDUCATIONAL MEDIA (EM)

- EDUCATIONAL MEDIA (2). LAB. (4). Basic principles of library/media center usage includes audiovisual equipment operation, production of basic AV materials, retrieval and utilization of library materials and selected basic skills of instructional design.
- MICROCOMPUTER CONCEPTS AND APPLICATIONS IN EDUCATION (4). LEC. 3, LAB. 2. Introduction to microcomputer uses in education.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 510. MEDIA FOR CHILDREN (4), Pr., junior standing, Examination and evaluation of print and other types of materials in view of their relevance to the needs and interests of various age and grade levels of elementary school children. Study of selection aids, principles and criteria for selecting materials.
- REFERENCE MATERIALS AND SERVICES (4). Pr., junior standing. Study and evaluation of basic reference sources for learning resources centers. Introduction to research methods needed in locating information to support the curriculum of the school.
- 550. CLASSIFICATION AND CATALOGING OF MEDIA (4). Pr., junior standing. Principles and procedures of classifying and cataloging books and other printed materials, filmstrips, recordings and community resources. The vertical file, the Dewey decimal system of classification, Wilson and Library of Congress printed cards and subject headings are studied.
- THE MICROCOMPUTER AS AN EDUCATIONAL MEDIUM (4). LEC. 3, LAB. 2. Pr., junior standing.
   Applications of microcomputers in education for instruction and administration, present and future.

### FOUNDATIONS OF EDUCATION (FED)

213. HUMAN GROWTH AND DEVELOPMENT (5). LEG. 4, LAB. 2. Pr., sophomore standing. Teacher and the school in the direction, measurement and evaluation of individual growth and development by using various sociological, philosophical and psychological theories. Laboratory experiences required.

- 214. PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (5). LEC. 4, LAB. 2. Pr., sophomore standing. The psychological dimensions of the educational process. The processes, conditions and evaluation of learning and related methodologies of teaching. Laboratory experiences and evaluation of the Preteaching Field Experience. For description of the Pre-teaching Field Experience Program, see Professional Requirements, Sect. C under College of Education.
- 270. INTRODUCTION TO STATISTICAL ANALYSIS IN THE HUMAN SCIENCES (3), LEC. 3. Pr., MH 140 or 160. The fundamentals of research design and analysis in nursing, education and related human sciences. Practical experience in the application of the binomial, normal curve, Poisson and Chi-square distribution functions in research design. Required in Professional Nursing Curriculum, Non-nursing students must have departmental approval.
- 300. EDUCATIONAL PSYCHOLOGY (5). LEC. 4, LAB. 2. Pr., sophomore standing. Learning and motivation from a developmental perspective for the purpose of gaining insight into an understanding of the learning process and of the individual involved in this process. This experience provides an integrated theoretical base for educational practice. Enrollment limited to education majors.
- 320. SOCIAL FOUNDATIONS OF EDUCATION (5), LEC. 4, LAB. 2. Pr., junior standing. Relationship of the school and contemporary society and the influence of cultural heterogeniety upon the teachinglearning process. Laboratory experiences focus upon mastering basic tools for studying the school as a dynamic social system.
- 350. CULTURAL FOUNDATIONS OF EDUCATION (5). LEC. 4, LAB 2. Pr., junior standing. Analysis of education giving emphasis to the act of teaching both in theory and practice. Regardless of disciplinary emphasis, the concerns of educational purpose, curriculum and pedagogy will be the focus of the courses. Students will select one of the following disciplinary options: (a) philosophy of education, (b) history of education, (c) social foundations of education, (d) comparative education. Enrollment limited to education majors.
- 400. MEASUREMENT AND EVALUATION IN EDUCATION (5). LEC. 4, LAB. 2. Pr., FED 300 or equivalent and junior standing. Measurement and evaluation as an integral part of the teaching-learning process. Focus is on (a) identifying and defining intended learning outcomes, (b) constructing or selecting tests and other evaluation instruments that are relevant to specified outcomes and (c) interpreting and using results in determining attainment of educational goals and improving learning and instruction. Enrollment limited to education majors.
- 446. DIRECTED INDEPENDENT STUDY (1-10). The student's learning efforts are guided toward desired objectives. Includes evaluation by professor and student of work accomplished at regular intervals.
- 480. PHILOSOPHICAL FOUNDATIONS OF EDUCATION (5). Educational movements and ideas in Western culture which influence modern educational practices. Evaluation of laboratory experiences and the Professional Internship through philosophical analysis of educational concepts and problems.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- EDUCATIONAL SOCIOLOGY (4-5). Pr., SOC 201 or equivalent. The school as a social institution. Group interaction, formal and informal structure and organization and the relationship of education to other social institutions.
- 534. PERSONALITY DYNAMICS AND EFFECTIVE BEHAVIOR (4-5), Pr., 10 hours of psychology. Analysis of adaptive and maladaptive behavior. Not open to students majoring in psychology.

## Electrical Engineering (EE)

Professors Aldridge, Greene, Lowry, Owens, Rao, Rose, Shumpert and Tugnait Earle C. Williams Eminent Scholar Irwin, Head Alumni Professor Tzeng

Alabama Power Distinguished Professor Grigsby

Distinguished University Professor Jaeger
Associate Professors M. Baginski, T. Baginski, Cressler, Hung, Johnson, Lee, Nelms,

Nelson, Riggs, Roppel, Singh and Wu Square-D Associate Professor Gross

Assistant Professors Denney, Ding, Hodel, James, Kirkici, Reeves and Wentworth Non-engineering students may enroll only with departmental consent.

- LINEAR CIRCUIT ANALYSIS I (3). Pr. PS 222, CSE 120 or equivalent. Coreq., MH 265. Basic laws and concepts; resistive circuits, linear algebra, R-L and R-C circuits.
- 263. LINEAR CIRCUIT ANALYSIS II (4). Pr., EE 261. Coreq., EE 264 for EE students. Sinusoidal forcing functions and phasors; steady-state response, average power and RMS values, polyphase circuits and magnetically coupled circuits.
- LINEAR CIRCUIT ANALYSIS II LABORATORY (1). LAB. 3. Coreq., EE 263. Experiments in electrical circuits.

- ELECTROMAGNETIC PRINCIPLES I (3). Pr., PS 221, 222. MH 265. Scalar and vector fields: Coulomb's and Gauss' laws; the electrostatic field; Laplace's and Poisson's equations; coordinated classroom and laboratory demonstrations.
- ENGINEERING INSTRUMENTATION (3), LEC. 2, LAB. 3. Pr., EE 263 or EE 302. Principles of instrumentation. The detection and measurement of physical quantities with emphasis on transducers, signal processing and display. (Not open to Electrical Engineering majors.)
- INTRODUCTION TO ELECTRICAL ENGINEERING I (3). Pr., PS 222. Coreq., MH 265. Electrical circuit analysis - dc, ac and transient; power devices and systems.
- INTRODUCTION TO ELECTRICAL ENGINEERING II (3). Pr., EE 302. Digital systems; electronic devices; amplifier concepts.
- 311. PROBABILISTIC METHODS FOR ELECTRICAL ENGINEERS (3). Pr., EE 362. Introduction to probability, random variables and random processes, including analysis of random signals and noise and reliability of circuits and systems.
- 330. ANALYSIS AND DESIGN OF LOGIC CIRCUITS (4). LEC. 3, LAB. 3, Pr., CSE 120. Binary numbers, Boolean algebra, Boolean functions, truth tables and Karnaugh maps; gates and flipflops; combinational and sequential logic circuits; design methods and design verification; logic families and logic technologies.
- 335. COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE PROGRAMMING (3). Pr., EE 330. Stored program computers, hardware components, software components; data representation and number systems; instruction sets, addressing modes and assembly language programming; subroutines and macros; assemblers; loaders, linkers and operating systems; memory, memory cycle and memory hierarchy; arithmetic/logic unit; control unit, program counter and instruction cycle; input/output programming and interrupts. (Credit is not allowed for both EE 335 and CSE 335.)
- COMMUNICATIONS I (3). Pr., EE 362. Fourier series, Fourier transforms, spectral analysis, amplitude and angle modulation, frequency division multiplexing.
- 341. COMMUNICATIONS II (4). LEC. 3, LAB. 3. Pr., EE 311, 340. Pulse modulation, time-division multiplexing, random processes, correlation analysis, power spectra, information and digital transmission, quantization noise, digital modulation: ASK, PSK, FSK; introduction to digital signal processing.
- 351. LINEAR FEEDBACK SYSTEMS (4). Pr., EE 362 or departmental approval for non-EE students. Transfer functions, transient and steady state performance, stability, design and compensation of feedback control systems.
- LINEAR SYSTEMS (5), LEC. 4, LAB. 3, Pr., MH 266, EE 263, 264. Fourier series, Fourier transforms, Laplace transforms.
- ELECTRONICS I (4). Pr., EE 263 or 302. Semiconductors, principles of electronic devices, analysis and design of digital logic circuits.
- ELECTRONICS II (3). Pr., EE 371. Ideal and non-ideal operational amplifiers, transistor biasing, small-signal modelling, bipolar and FET single-stage amplifiers.
- 381. INTRODUCTION TO ELECTRIC POWER ENGINEERING (3). Pr., EE 263. Power in polyphase ac circuits; symmetrical components; per-unit scaling; the power transmission lines; linear and nonlinear magnetic circuits; power transformers.
- 382. ELECTROMECHANICAL ENERGY CONVERSION (4). LEC. 3, LAB. 3. Pr., EE 381. General electromagnetic-mechanical energy conversion; steady state and transient performance of dc machines, polyphase ac induction machines and single-phase induction and reluctance machines.
- POWER SYSTEMS ANALYSIS (4). LEC. 3, LAB. 3. Pr., EE 382. Polyphase synchronous machines; power transmission line performance; the power flow problem; power system voltage and generation control.
- 392 ELECTROMAGNETIC PRINCIPLES II (3). Pr., EE 263, EE 291. Biot-Savart's and Ampere's laws; the magnetostatic field; Faraday's law, electrodynamics, Maxwell's equations, transmission line concepts, coordinated classroom and laboratory demonstrations.
- 393. APPLIED ELECTROMAGNETICS (4). LEC. 3, LAB. 3. Pr., EE 392. Analysis and design of commonly-used waveguides and guided-wave structures and devices. Introduction to and design of simple antennas and other radiating structures. Coordinated classroom demonstrations and laboratory experiments.
- 401-402. SENIOR DESIGN PROJECTS (3-3). Pr., senior standing and departmental approval. A capstone design project which draws on the accumulated curricular experience. Particular project sections may have additional requisites. Must be taken in consecutive quarters. 401 will be graded S/U.
- 430. COMPUTER SYSTEM DESIGN (4). LEC. 3, LAB. 3. Pr., EE 335. Computer I/O, I/O hardware, programmed I/O, interrupts, DMA and I/O programming; microprocessors, support chips, peripherals and programming; system specification, design and verification.
- 452. DISCRETE AND NONLINEAR CONTROL SYSTEMS (4). LEC. 3, LAB. 3. Pr., EE 351. Analysis and design of discrete control systems, with emphasis on digital control systems; describing functions; state-plane analysis.

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- 175 ELECTRONICS III (4). LEC. 3, LAB. 3, Pr., EE 374. Amplifier frequency response; multi-stage amplifiers; feedback; active filters; oscillators.
- SPECIAL TOPICS (CREDIT TO BE ARRANGED.) Pr., departmental approval. May be taken more than one quarter.
- HONORS THESIS (1-6). Pr., department head approval. Individual student endeavor consisting of directed research and writing of honors thesis. (EE Honors Program students only. May be repeated once for a maximum of six total credit hours.)
- 499. SPECIAL PROJECTS (CREDIT TO BE ARRANGED.) Pr., departmental approval. May be taken more than one quarter.

- 523. ADVANCED DIGITAL CIRCUIT DESIGN (4). LEC, 3, LAB. 3. Pr., EE 430. Advanced design of digital logic circuits, using discrete gates and programmable logic devices, hardware description languages, circuit simulation for design verification and analysis, fault diagnosis and testing.
- 524. MICROPROCESSORS AND PERIPHERAL SUBSYSTEMS (3). Pr., EE 430 or departmental approval. Microcomputer chip sets, microcontrollers and bus standards. Design of selected peripheral subsystems, including graphics displays, floppy and hard disks and network interfaces.
- 530. COMPUTER ARCHITECTURE AND DESIGN (4). Pr., EE 430. Structural organization and hardware design of digital computers; register transfers; micro-operations, control units and timing; instruction set design; microprogramming; automated hardware design aids.
- 532. COMPUTER NETWORKS (3). Pr., EE 430 or CSE 405. Introduction to computer networks, the ISO layered network model, local and wide-area networks, applications and case studies. (Credit is not allowed for both EE 532 and CSE 532.)
- 533. PARALLEL PROCESSING (3). Pr., EE or CSE 530. Hardware and software elements of multiprocessors, multicomputers, pipeline and array machines and data flow architecture; design principles related to machine structures, control software and hardware, data storage and access, programming, languages and application algorithms. (Credit is not allowed for both EE 533 and CSE 533.)
- 534. NEURAL NETWORKS I (3). Pr., EE 430 or equivalent. Overview of neural network computing; evolution of development in neural computing; Perceptrons, Adaline and Madaline; Hopfield net and bidirectional associative memory; backpropagation net; Boltzmann and Cauchy machines; self-organizing feature maps; counterpropagation net; adaptive resonance theories; implementations.
- INTRODUCTION TO DIGITAL SIGNAL PROCESSING (3). Pr., EE 340. Digital processing of signals, difference equations, discrete-time Fourier transforms, discrete and fast Fourier transforms, applications of digital processing.
- INTRODUCTION TO DIGITAL IMAGE PROCESSING (3). Pr., EE 311, 362. Basics of digital image processing and surveys of applications such as enhancement, restoration and compression.
- 551. DESIGN OF DIGITAL COMPUTER SIMULATIONS OF PHYSICAL SYSTEMS (3). Pr., EE 452. Digital computer simulation of physical systems; optimization techniques for design; parameter variation to meet design objectives.
- MODERN DIGITAL CONTROL SYSTEMS DESIGN (3). Pr., EE 452. Linear algebra, state variable modeling, pole assignment design, optimal design, design of state estimators.
- 553. MICROPROCESSOR CONTROL SYSTEMS DESIGN (3). Pr., EE 430. Coreq., EE 452. Electrical transducers. Characteristics of operational amplifiers used for instrumentation. Signal conditioning operations. Data conversion systems. Signal transmission methods. Process controllers. Microprocessor controller examples.
- 554. LINEAR SYSTEMS WITH RANDOM SIGNAL INPUTS (4). Pr., IE 311, Coreq. EE 452. Review of probability and random variables, random signals, analog and discrete system response to random signals Monte Carlo simulations.
- PHYSICAL ELECTRONICS I (3). Pr., EE 291, PS 320. Electrical properties of materials with emphasis on semiconductors.
- PHYSICAL ELECTRONICS II (3). Pr., EE 570. Physical properties of electrical and electronic devices.
- 572. MICROELECTRONICS FABRICATION AND DESIGN (4). LEC. 3, LAB. 3.Pr., EE 374. Introduction to monolithic integrated circuit technology. Bipolar and MOSFET processes and structures. Elements of layout, design, fabrication and applications. Experiments in microelectronic technologies.
- 573. HYBRID ELECTRONIC DESIGN (4). LEC. 3, LAB. 3. Pr., EE 374 or departmental approval. Technology and design of thick and thin film hybrids for implementations of circuit schematics. Techniques are demonstrated in the laboratory and a functional circuit is designed, fabricated and tested.
- 574. INTRODUCTION TO OPTOELECTRONICS (3). Pr., EE 392. Optical propagation modes, fiberoptics, lasers, electro-optic modulation, detectors and noise in optical systems.

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- 575. ANALOG ELECTRONIC DESIGN (3). Pr., EE 475 and departmental approval. Design of analog integrated circuits; current sources, differential amplifiers, output stages, operational amplifiers, frequency response. Nonlinear circuits; multipliers and phase-locked loops.
- 576. INTRODUCTION TO VLSI DESIGN (3). Pr., EE 330, 371. The design of digital logic circuits and systems in very large scale integrated circuit (VLSI) technology; bipolar and MOS logic families; full custom and semicustom CMOS design methodologies.
- 579. INTRODUCTION TO PLASMA ENGINEERING (3). Pr., EE 291 or departmental approval. Electrical breakdown and discharges in gases, basic plasma theories, gas lasers, plasma processing of materials, controlled fusion, plasma switches, microwave generation.
- 581. APPLICATIONS AND DESIGN OF ELECTROMECHANICAL SYSTEMS (3). Pr., EE 383 or departmental approval. Transformer connections. NEMA and IEEE Motor Standards. Matching motors to cyclic loads. Machine transient analysis.
- 582. APPLICATION AND DESIGN OF POWER ELECTRONIC SYSTEMS (3). Pr., EE 383 or departmental approval. Polyphase power rectifiers and inverters. Solid state drives for rotating machines. Characteristics of high power solid state components.
- 583. ELECTRICAL INSULATION DESIGN (3). Pr., EE 392. Design of insulation for all engineering applications. Includes vacuum, gaseous, liquid and solid insulations. Coordinated homework design projects and classroom demonstrations and presentations.
- 585. POWER SYSTEM PROTECTION (3). Pr., EE 383 or departmental approval. Symmetrical components and analysis of unbalanced faults on power systems. Relay and protection schemes.
- 587. CONTROL OF POWER SYSTEMS (3). Pr., EE 383 or departmental approval. P-I control loop, automatic generation control, economic dispatch, transmission losses, reserve allocation, decoupled power flow, matrix inversion Lemma, Q-V control.
- SPECIAL TOPICS (CREDIT TO BE ARRANGED.) Pr., departmental approval. May be taken more than one quarter.
- 593. INTRODUCTION TO ELECTROMAGNETIC COMPATIBILITY AND INTERFERENCE (3). Pr., EE 362, 371, 392. Electrical noise suppression and control in electrical systems.
- 594. RADAR SYSTEMS (3), Pr., EE 340, 392: Introduction to the fundamentals of radar systems.
- 595. MICROWAVE ENGINEERING (3). Pr., MH 266, EE 393. Application of Maxwell's equations to practical devices; microwave network analysis and microwave sources; demonstation of microwave devices and test methods; design and analysis filters, couplers and amplifiers utilizing modern microwave computer-aided design software.
- 596. DESIGN OF ANTENNAS AND ANTENNA SYSTEMS (3). Pr., MH 266, EE 393. Design of antenna elements and phased arrays of these elements, antenna system performance parameters and guidelines, antenna measurements and measurement systems.

## Engineering (EGR)

General Curriculum (CLA) students (those with undeclared majors) may enroll only with departmental consent. For other engineering courses, refer to individual departmental course offerings.

- 201 THERMODYNAMICS I (3). Pr., CH 104, MH 163, PS 220, 221 or CH 113 or 105. Laws of thermodynamics; energy transformations; properties and relationships among properties; equations of state and simple processes and cycles.
- ENGINEERING MECHANICS—STATICS (3). Pr., PS 220, CSE 120. Coreq., MH 264. Basic principles of vectors, forces, moments and free body diagrams. Force systems and equilibrium in two and three dimensions Friction.
- MECHANICS OF MATERIALS (3). Pr., EGR 205, MH 264. Coreq. MH 265. Fundamental concepts of stress and strain; transformations; stress-strain relationships; applications to uniaxially loaded members; centroids and area moments of inertia; torsion; normal stresses in beams.
- 235. DYNAMICS (3). Pr., EGR 205. Coreq., MH 265. Newtonian approach to the analysis of two dimensional motion of particles and rigid bodies. Work-energy and impulse-momentum principles are applied to particle motion.
- PROFESSIONAL PRACTICE IN ENGINEERING (1). LEC. 1. (S/U graded.) Pr., upper division standing. Professional engineering attitudes, ethics and social responsibilities.
- 450. ENGINEERING HONORS SEMINAR (3). Pr., junior standing. Topics of interest to honors students and engineering faculty. Interaction with successful engineering alumni. Open to Honors Program students only.
- 491. LEGAL ASPECTS OF ENGINEERING, ARCHITECTURE AND DESIGN (3). Legal aspects of engineering and design; an introduction to the American legal system with emphasis on problems of the engineering and design professions.

## English (EH)

Professors Rygiel, Head, Backscheider, Cunningham, Hitchcock, Jacobson, Latimer, Littleton, Morrow, Solomon and Welt

Associate Professors Bernstein, J. Clark, M. Clark, Crandell, Dunlop, Gresham, Hammersmith, Haney, Kouidis, Morton, Nunnally, Relihan, Silverstein, R.T. Smith,

Thompson, Wehrs and Werner

Assistant Professors Appelbaum, Atkinson, Brown, Burnham, Conner, Cummings, Downes, Dykstal, Goldstein, McKelly, Morlier, Rothschild, Sabino, St. John, Troy, Walters and Wright Adjunct Assistant Professor Flick

Visiting Associate Professor Kaetz

Instructors Burgess, Carcache, Christensen, Duggan, Smith, Waters and West Freshman English Composition (110, 115 or 118) and Great Books (220-221 or 281-282) are required of all students and are prerequisites for all courses in English numbered 400 or above

Most 300- through 500-level five-hour EH courses are offered in alternate years rather than annually. An annual schedule of course offerings is available in the English Department office.

### I. GENERAL CURRICULUM COURSES

- 080. PROFICIENCY IN ENGLISH FOR FOREIGN STUDENTS (NO CREDIT).
- BASIC ENGLISH (NO CREDIT). English grammar and mechanics and fundamentals of composition. Recommended for students with poor composition backgrounds or for students whose ACT or SAT verbal scores are low.
- ENGLISH COMPOSITION (5). Intensive study of and practice in effective expository and argumentative writing.
- WRITING SEMINAR (5). Pr., departmental approval. Fall, Winter. Special topics in writing for superior students.
- HONORS WRITING SEMINAR (5). Pr., approval by the University Honors Program. Fall, Winter. Special topics in writing for students in Honors.
- 180. PROFICIENCY IN ENGLISH FOR FOREIGN STUDENTS (1).
- 220-221. GREAT BOOKS I, II (5-5). Pr., EH 110, 115 or 118 and sophomore standing or approval by the English Department; EH 220 pr. for 221. Significant texts in Western civilization; EH 220, ancient Greece through the Renaissance; EH 221, 17th century to the present.
- 281-282. HONORS GREAT BOOKS I, II (5-5). Pr., EH 118 or equivalent and approval by the University Honors Program; EH 281 pr. for 282. Significant texts in Western civilization: EH 281, ancient Greece through the Renaissance; EH 282, 17th century to the present.

### II. ENGLISH LITERATURE

- 353-354. SURVEY OF ENGLISH LITERATURE (5-5). English literature from Beowulf to the present.
- 405. CHAUCER (5). The major works of Chaucer in Middle English.
- 450. MODERN BRITISH LITERATURE (5). British poetry and prose, 1910-1945.
- 452. CONTEMPORARY BRITISH LITERATURE (5). British poetry and prose, 1945-present.
- 461. ENGLISH DRAMA, BEGINNINGS TO 1642 (5).
- 462. POETRY AND PROSE OF THE ENGLISH RENAISSANCE, 1475-1603 (5).
- 463. RESTORATION AND NEO-CLASSICAL LITERATURE, 1660-1745 (5).
- 464. THE AGE OF JOHNSON, 1745-1798 (5). Poetry, prose and drama.
- 465. MILTON (5).
- 466. POETRY AND PROSE OF THE 17TH CENTURY (5). Non-dramatic British literature, 1603-1660.
- 469. 18TH-CENTURY ENGLISH NOVEL (5).
- 470. EARLY SHAKESPEARE (5). The Comedies, Histories and Early Tragedies.
- 471. LATER SHAKESPEARE (5). Tragedies, Dark Comedies and Romances.
- 474. 19TH-CENTURY ENGLISH NOVEL (5).
- 475. ROMANTIC LITERATURE, 1790-1830 (5). Poetry and prose from Wordsworth through Keats.
- 477. VICTORIAN LITERATURE, 1830-1890 (5). The major poets and nonfiction writers from 1830 to 1890.

#### III. AMERICAN LITERATURE

- 370. SURVEY OF AMERICAN LITERATURE (5). American literature from the beginnings to the present.
- 425. THE SHORT STORY (5). The development of the short story in America and Europe from the early 19th century to the present.
- 440. EARLY AMERICAN LITERATURE (5). American literature to 1800.

- 441. AMERICAN ROMANTICISM (5). 19th-century American literature, to approximately 1865.
- 442. AMERICAN REALISM AND NATURALISM (5). American literature of the later 19th and early 20th centuries
- 443. MODERN AMERICAN LITERATURE (5). American poetry and prose, 1914-1945.
- 444. CONTEMPORARY AMERICAN LITERATURE (5). American poetry and prose, 1945-present.
- 472. THE AMERICAN NOVEL (5).
- 473. AMERICAN POETRY (5). Major American poets from the colonial period to the present.
- 495. SOUTHERN LITERATURE (5). The poetry, fiction and nonfiction prose writings in the South from Revolutionary times to the present, with major emphasis centering on Southern regional attitudes and trends.
- 496. AFRICAN-AMERICAN LITERATURE (5).

### IV. LITERATURE IN TRANSLATION

- 406. MEDIEVAL LITERATURE IN TRANSLATION (5). Selected topics in English and Continental medieval literature, including such writers as St. Augustine, Guillaume de Lorris, Marie de France, Andreas Capellanus, Chretien de Troyes, Dante, Margery Kempe and Malory.
- THE EUROPEAN NOVEL (5). The reading and analysis of significant novels by major European writers.
- 430. THE CLASSICAL BACKGROUND (5). Readings from the major Greek and Roman writers. The texts are chosen with particular attention to their subsequent influence upon English and American literature.
- 434. MODERN DRAMA (5). American, English and world drama from Ibsen through World War II.
- 435. CONTEMPORARY DRAMA (5). American, English and world drama of the post-World War II era.
- 490. STUDIES IN COMPARATIVE LITERATURE (5). Non-British and non-American literature written in English or studied in translation. May be repeated once for credit with the department's approval.

#### V. LANGUAGE AND CRITICISM

- 403. INTERPRETING TEXTS (5). Theory and practice of interpreting literary and non-literary texts.
- 409. CLASSICAL RHETORIC (5). Classical rhetorical theory from ancient Greece to St. Augustine.
- 410. CONTEMPORARY RHETORIC (5). The principles of rhetorical analysis and of modern stylistics with practical application of those principles to varied types of literary materials.
- 411. INTRODUCTION TO LINGUISTICS (5). A broad survey of the system and structure of modern American English (sounds, words, syntax, meaning) as well as developments in special areas of English linguistics, including the neurology and psychology of language, animal communication and regional and social dialectology.
- LANGUAGE VARIATION (5). Social, regional and contextual forces that contribute to dialect diversity.
- 417. DISCOURSE ANALYSIS (5). Theory and application of discourse analysis.
- 481. TOPICS IN CRITICAL THEORY (5), Pr., EH 403
- 541. HISTORY OF THE ENGLISH LANGUAGE (5). The chronological development of the English language.
- 594. MODERN ENGLISH GRAMMARS (5). Modern methods of language study, with particular emphasis on English syntax and semantics.

#### VI. WRITING COURSES

Freshman English Composition (110, 115 or 118) and Great Books (220-221 or 281-282) are required of all students and are prerequisites for English courses numbered 400 or above.

- 400. ADVANCED COMPOSITION (5). Pr., junior standing. Theory and practice of expository writing.
- 404. TECHNICAL WRITING (5). Pr., junior standing. Writing for students in engineering, scientific and technical fields, with emphasis on reports and correspondence in their professions. Credit for EH 408 precludes credit for this course.
- 408. BUSINESS WRITING (5). Pr., junior standing. Writing for students in all majors in the College of Business, as well as other majors with business management or governmental service components. Emphasis on reports and correspondence in their professions. Credit for EH 404 precludes credit for this course.
- 416. TECHNICAL AND PROFESSIONAL EDITING (5). Pr., EH 400, 404, 408, or departmental approval, junior standing. Editing technical and professional documents for organization, format, style and mechanics. Helps students develop professional competence as editors.
- 420. INTRODUCTORY FICTION WRITING (5).
- 421. ADVANCED FICTION WRITING (5), Pr., EH 420.

- 427. INTRODUCTORY POETRY WRITING (5).
- 428. ADVANCED POETRY WRITING (5). Pr., EH 427.
- 429. SPECIAL PROJECT IN CREATIVE WRITING (5). Pr., EH 420 or 427. Extensive writing in varying literary genres, the specific kind of writing to be announced each time the course is offered. May be repeated once for credit, with department's consent.
- 487. ADVANCED HONORS WRITING SEMINAR (5). Pr., junior standing and approval by the Honors Program. Theory and practice of expository writing.
- ADVANCED PROFESSIONAL WRITING (5). Pr., departmental approval. Document design, readability, graphics, audience analysis in advanced professional and technical writing tasks.
- PRACTICUM IN PROFESSIONAL WRITING (5). Pr., departmental approval. Supervised experience in editing technical, business and scientific documents.
- 503. TOPICS IN TECHNICAL AND PROFESSIONAL WRITING (5). Pr., EH 404, 408 or 416. May be repeated once for credit with department's consent.

## VII. COURSES ON SPECIAL TOPICS

- WORD STUDY (3). General, broad-based exploration of the lexical component of the English language.
- 319. STUDIES IN CHILDREN'S LITERATURE (3).
- 325. UNDERSTANDING POETRY (5). Conventions of reading and writing about poetry.
- 335. CLASSICAL MYTHOLOGY (3). The character and influence of Greek and Roman mythology.
- 384. LITERATURE AND CULTURE (3).
- 385. RECENT FICTION (3). The reading and discussion of selected examples of the New Fiction.
- 386. CONTEMPORARY PROSE (3). Recent nonfiction prose works noteworthy for their style and content.
- 387. WORLD ENGLISH LITERATURES (3). Non-British and non-American literature written in English.
- 388. STUDIES IN COMEDY (3).
- POPULAR GENRES (5). Explores one or more of the genres represented in the literature of past and present popular cultures.
- TOPICS IN LANGUAGE AND LITERATURE (5). Concentrated investigation of varying topics in language and literature. May be repeated once for credit with department's approval.
- 478. DIRECTED READINGS (5), Pr., junior standing with a minimum of 3.0 overall average, a 3.5 average in at least five upper-division English courses and the consent of the English Department. Readings in a specific area of literature or language. May be repeated once for credit with department's approval.
- 483. TOPICS IN GENDER AND LITERATURE (5). Examination of varying topics related to the intersection between literature and gender.
- 488. READINGS FOR HONORS (5). Pr., approval by the Honors Program, Individual reading programs in a specific area of literature or language, as determined by the instructor and student. An honors essay and a written examination will be required.
- HONORS THESIS (5). Pr., approval by the Honors Program. May be repeated once for credit with department's approval.
- 525. SPECIAL TOPICS SEMINAR (3-5). May be repeated once for credit with department's approval.

## Entomology (ENTI)

Professors Brewer, Head, Clark, Cobb, Mullen and Smith Associate Professors Appel, Cane, Gaylor, Freeman, Hyche, McVay, Strother, Weeks, Williams and Zehnder

#### Assistant Professors Estes and Moar

- 204. INSECTS (3). LEC. 3. Fall, Winter and Spring. Life processes, occurrence and importance of insects.
- 209. BEE BIOLOGY (3). LEC. 3. Winter. Principles of ecology, behavior, physiology and genetics will be used to understand the biology of bees and their ecological roles in pollination.
- 210. APICULTURE (2). LAB. 4. Pr., ENT 209. Spring. Apply knowledge of honey bee biology to the care and management of small apiaries for the production of honey and wax and for commercial pollination.
- 215. FOREST PESTS (4), LEC. 3, LAB. 1, Pr., BI 101-102. Spring. Diseases and pests of forest and shade trees from seedling to maturity. Pest damage to wood products will also be discussed. Field trip will emphasize major forest pest problems in Alabama.
- 304. GENERAL ENTOMOLOGY (5). LEC. 4, LAB. 3. Pr., BI 103. Spring, Summer. Introduction to the biology and diversity of insects.

- 404. INSECTS AFFECTING HUMANS, DOMESTIC ANIMALS AND WILDLIFE (5). LEC. 4, LAB. 1. Fall. Surveys insects, mites, ticks, spiders and other arthropods which attack man and domestic animals. Emphasis is given to recognition of pest species, their biology and role in transmiting disease agents of veterinary or public health importance.
- 405. APPLIED ENTOMOLOGY (5), LEC. 4, LAB. 3, Pr., ENT 304. Spring. Biology, economic importance and management of the more important insect pests in each of the various agricultural commodity groups.
- 406. ALTERNATIVE METHODS OF INSECT PEST MANAGEMENT (5). LEC, 5, Pr., ENT 405. Fall. An introduction to insect management factics other than chemical insecticides.
- 491. ENTOMOLOGY INTERNSHIP (UP TO 5 HRS. PER QUARTER, 15 HRS. MAXIMUM.) departmental approval, SU graded. Provides practical job experience under joint supervision of the internship advisor and appropriate state, federal or private agency. Training will prepare student for potential career employment.
- SPECIAL PROBLEMS OR TOPICS (1-3). Pr., senior standing. A student can register for a total of not more than three hours credit.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- ECONOMIC ENTOMOLOGY (5). LEC. 4, LAB. 3. Fall, Spring. Consideration of the biological aspects, life histories and control of insects. Not for graduate credit for students in College of Agriculture departments.
- 503. TOXICOLOGY OF INSECTICIDES (5), LEC. 4, LAB. 3. Winter. Toxic actions of insecticides; formulations, application methods and uses of insecticides; research methods and uses of insecticides; research methods in insect toxicology; insecticide residues in relation to man and the environment.
- FOREST INSECTS (5). LEC. 4, LAB. 3. Pr., ENT 304 or 502. Fall, even years. Principal insects of forests and forest products; their importance, taxonomy, bionomics and control.
- 506. IMMATURE FORMS OF INSECTS (5), LEC. 2, LAB. 6. Pr., ENT 304 or equivalent. Winter. Structure and indentification of immature forms of insects; methods of collecting and preserving; development and use of keys for classifying immature insects.
- GENERAL INSECT MORPHOLOGY (5). LEC. 3, LAB. 6. Pr., ENT 304 or equivalent. Winter. Form and function in insects and related anthropods. Morphological characteristics used in insect identification is emphasized.
- 510. INSECT IDENTIFICATION (5), LEC. 3, LAB. 4. Pr., ENT 304 or equivalent. Spring. Learn to use the tools of the taxonomist to identify the more common insect families. A collection is required. Field trips will be taken.
- 514. AQUATIC INSECTS (5). LEC. 3, LAB. 6. Pr., ENT 304. Winter. Biology and ecology of aquatic and semiaquatic insects. Focus of laboratory sessions is identification at family and generic levels with the emphasis on taxa in the Southeastern United States. Experience in collection and field techniques is provided.

## **Environmental Science (ENS)**

For information on this program refer to the description of the curriculum in the Interdepartmental curricula section of the Bulletin.

## Family and Child Development (FCD)

Professors Bradbard, Head, Avery, Henton, Sollie, Turner and Vaughn Associate Professors Lamke, Lindholm, Mize, Pettit, Pittman, Salts, Smith and Waddell Assistant Professors Abell, Giles, Goddard, Solheim and White Instructors Grover, Silvern and Wilbanks

- 157. FAMILY AND HUMAN DEVELOPMENT (3). Human development as it is affected by the family and the family as it affects and is affected by the environment. Prior credit for any other Family and Child Development course precludes credit for this course for majors only.
- MANAGEMENT FOR CONSUMERS (4). Management of consumer resources, with emphasis on decision-making and problem-solving skills over the life cycle.
- PRINCIPLES, THEORIES AND METHODS OF HUMAN DEVELOPMENT (5). Introduction to the principles, theories and methods of human development.
- 269. MATE SELECTION AND MARITAL INTERACTION (4). Analysis of courtship, mate selection and marital interaction. Factors contributing to marital stability and success.
- 287. CAREERS IN FAMILY AND CHILD DEVELOPMENT (2). Introduces the range of career choices in the field of family and child development and the preparation needed to qualify for them. Includes orientation to the department.

- 301. EARLY AND MIDDLE CHILDHOOD DEVELOPMENT (5). LEC. 4, LAB. 2. Pr., FCD 267. Physical, intellectual, social and emotional development of children from early through middle childhood; familial influences on development and behavior. Laboratory experiences are required.
- 304. HUMAN SEXUALITY THROUGHOUT THE FAMILY LIFE CYCLE (4). Pr., SOC 201 and PG 201, junior standing. Human sexuality from a life cycle perspective, with emphasis on developmental, familial and societal factors that influence individual sexuality.
- PATTERNS OF FAMILY INTERACTION (4). Pr., FCD 269. Current theories of family interaction including normal and deviant patterns and other effects.
- RELATIONSHIP COMPETENCE (3). Pr., 269. An empirical examination of the interpersonal competencies necessary for the development of successful dating and marital relationships.
- 309. INTRODUCTION TO MARRIAGE AND FAMILY THERAPY (4). Pr., FCD 269. A broad overview of the history, theory and application of marriage and family therapy.
- 310. TECHNIQUES OF CHILD AND FAMILY INTERVIEWING (4). Pr., departmental approval. Principles and techniques of interviewing and establishing a helping relationship with children and families.
- 323. CONSUMER AND THE MARKET (3), Pr., junior standing or departmental approval. Management of family resources and consideration of alternatives available to families as consumers. Consumer problems, use of information sources and analysis of laws protecting consumers.
- LABORATORY EXPERIENCES WITH YOUNG CHILDREN (3). LEC. 1, LAB. 6. Pr., FCD 267 and 301. Substantive lecture material and supervised participation in the Child Study Center preschool programs. (Required of all FCD majors.)
- 350. DAY CARE FOR CHILDREN (4). Pr., FCD 267, 301, junior standing or departmental approval. An historical and theoretical study of day care with discussion of multi-cultural programs, licensing standards and various patterns of group and family day care service. Field assignment required.
- LEARNING EXPERIENCES FOR YOUNG CHILDREN (4). LEC. 3, LAB 3. Pr., FCD 301 and 347.
   Theoretical foundations and practical applications of programs and activities for young children.
- EXPERIENTIAL LEARNING (1-6), TBA, departmental approval, Independent work experience arranged. A. Child Study Center; B. Other approved placements. May be taken more than once. Total credit not to exceed six hours.
- 409. UNDERGRADUATE RESEARCH AND STUDY. (CREDIT TO BE ARRANGED.) (1-5). May be repeated for a maximum of 5 credits. Pr., departmental approval of written application. Consent for enrollment is based on a written proposal outlining the proposed course of study. Students should consult the department for further information and approval forms.
- DIRECTED READING IN FAMILY AND CHILD DEVELOPMENT. (CREDIT TO BE ARRANGED.) (1-3). Pr., departmental approval. May be repeated for a maximum of three credits.
- RECENT RESEARCH IN FAMILY AND CHILD DEVELOPMENT (4). Pr., FCD 267, 301. Synthesis of recent research in family and child development with emphasis on studies dealing with family influences on children.
- 467. PARENT EDUCATION (4), Pr., FCD 301. The principles of working with parents on both an individual and group basis. Laboratory experiences may be arranged.
- 473. INFANT DEVELOPMENT (4). Pr., FCD 267, 301 or equivalent. Intensive study of cognitive, social and physical aspects of development from conception to 30 months of age.
- 475. ADOLESCENT AND EARLY ADULT DEVELOPMENT (4). Pr., FCD 267, 301. The individual from adolescence through early adulthood, emphasizing familial influence on development and behavior. Field assignments are required.
- 477. FAMILY AND AGING (4). Pr., FCD 306. The interactive nature of the aging process as it relates to the family and its older members with emphasis on the problems of health, finances, housing and leisure time. Laboratory experiences provided.
- 491. HONORS THESIS (2-6). Pr., membership in University Honors Program; junior or senior standing in FCD. May be repeated three times for a maximum of six credit hours. Thesis will be in the student's area of interest and includes library research, field work, data analysis, scientific writing or other tasks related in advanced independent work. Open only to students in the Honors Program with the consent of the Honors Program Advisor.
- 497. INTERNSHIP (5-15 HOURS IN A, B, C, D, E OR F). Pr., Students must have a 2.0 GPA in all required FCD courses to enroll and applications for the internship must be submitted to the Internship Director three (3) quarters in advance of the proposed internship quarter. No more than three (3) options may be taken for a total of twenty (20) credits. A. Social Services; B. Family and Child Development; C. Maternal and Child Health; D. Day Care; E. Parent Education; F. Aged; G. Family Economics. Internship arranged on individual basis, supervised by faculty in community agencies, hospitals, clinics, Child Study and Marriage and Family Therapy Centers.
- 499. SEMINAR (2). Pr., junior or senior standing in FCD. May be repeated up to three times for a maximum of six credit hours. A. Child Development; B. Family Relations; C. Consumer and Family Economics; D. Advanced Research. Advanced Research section requires 3.0 GPA in the major.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 528. CONSUMER ECONOMICS (5), Pr., EC 202 and FCD 200 or departmental approval. Consumption as an economic activity; theory of consumer choice. Consumer's role in the American economy, impact of various market structures on the consumer, consumer protection; economic issues affecting the consumer.
- 530. FAMILIES AND SOCIAL POLICY (3). Pr., EC 202 and FCD 200 or departmental approval. Investigation of the impact of consumer and family oriented laws and policies on individuals/families. Exploration of individual/family involvement with public policy and legal resources as a means for realizing satisfying lifestyles.
- 538. STUDY/TRAVEL IN FAMILY AND CHILD DEVELOPMENT (2-8). May be repeated for a maximum of 12 undergraduate credits or eight graduate credits. Pr., Human Sciences core and departmental approval. Concentrated study in FCD in U.S. or foreign locations offering unique resources for investigation in one of these content areas. Lectures presented at prearranged points. Papers required on selected phases.
- 541. FAMILY FINANCIAL MANAGEMENT (5). Pr., FCD 200 or departmental approval. Family financial planning, including short-term money management, long-term planning, allocation of family resources and use of credit.
- 547. ADMINISTRATION OF PROGRAMS FOR CHILDREN AND FAMILIES (3). Pr., senior standing in the major or related field, FCD 301 or equivalent. Essential procedures for implementing programs for children and/or families. Topics include housing and equipment, finances and record-keeping, nutrition and health, staffing and community relations.
- 550. HOSPITALIZED CHILDREN AND THEIR FAMILIES (5). LEC. 4, LAB. 2. Pr., senior standing in the major or related field, FCD 301 or equivalent. Theoretical principles and practical applications of child life programming as it relates to the psychosocial needs of hospitalized children and their families.
- 568. GENDER ROLES AND CLOSE RELATIONSHIPS (3) A critical analysis of women's and men's changing roles in society. Effects of these changes on relationship development, marriage and the family.

### Finance (FI)

Professors Jahera, Head, Barth, Edmonds, Hand and Lloyd Associate Professors Hudson, Jensen, McCord, Page, Pugh and Tole Assistant Professor Crutchley

A 2.0 GPA is required for enrollment in any Business course at the 300-level or above. This rule applies to both Business and non-Business students.

- RISK AND INSURANCE (5). Pr., FI 361. Essentials of risk management, with emphasis on the use of
  insurance in meeting these risks; including the characteristics of property, liability, life and health
  insurance.
- 323. REAL ESTATE (5). Pr., FI 361. Fundamental principles and practices as applied to the purchase, sale, lease, mortgage, title and management of real estate.
- 340. PERSONAL FINANCE (5). Pr., junior standing. Plans for managing personal financial problems involving insurance, housing, household budgeting, investments, personal and bank loans, credit and time buying, etc.
- PRINCIPLES OF BUSINESS FINANCE (5). Pr., AC 212 or 215, EC 202 or 301 and junior standing. Short-term, intermediate and long-term financing of business firms.
- 362. SMALL BUSINESS FINANCE (5). Pr., FI 361. Continuation of FI 361 with emphasis on financial control, financial forecasting, investment decision-making, identification of sources of financing in a small business environment.
- 363. ADVANCED BUSINESS FINANCE (5). Pr., FI 361 and MN 301. Continuation of FI 361 with emphasis on capital budgeting, cost of capital, growth, promotion and reorganization.
- 367. MONEY MARKETS AND FINANCIAL INSTITUTIONS (5). Pr., FI 361. Structure and operation of commercial banks and other financial institutions and their role in the financing of business.
- STUDENT INTERNSHIP PROGRAM (1-10). Pr., junior standing and selection by the faculty committee. S/U graded.
- PROPERTY INSURANCE (5). Pr., Fl 320. The principles, uses and types of insurance with particular emphasis on fire, marine, automobile and casualty lines.
- LIFE INSURANCE (5). Pr., FI 320. The organization of the life insurance business and the various types of contracts.
- REAL ESTATE FINANCE AND INVESTMENT (5). Pr., FI 323 or departmental approval. Analysis and evaluation of real estate investments.

- MULTINATIONAL FINANCIAL MANAGEMENT (5). Pr., FI 361. The impact of various tax regulations, currency controls and exchange rates on the multinational firm.
- 463. FINANCIAL MANAGEMENT: CASES AND COMPUTER APPLICATIONS (5). Pr., AC 311 and FI 363. The analysis of complex financial management cases with computers.
- 464. INVESTMENTS (5). Pr. FI 361, MN 301 and junior standing. Individual investment policies, investment institutions and types of investments available.
- 466 SECURITY ANALYSIS AND PORTFOLIO MANAGEMENT (5). Pr., AC 311, FI 363 and 464. Analysis techniques and selection of securities to meet specific investment objectives.
- MANAGEMENT OF FINANCIAL INSTITUTIONS (5). Pr., AC 311, FI 361 and 367. Concentration on internal operations of financial institutions, especially banks.
- HONORS READINGS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- UTILITY FINANCE (5). Pr., AC 311 or departmental approval and FI 363. An in-depth study of financial applications related to public utilities.
- 472. HONORS THESIS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- SPECIAL PROBLEMS (1-10). Pr., FI 363 and senior standing. Advanced individual research and study in finance under guidance of a faculty member. S/U graded.

## Fisheries and Allied Aquacultures (FAA)

Professors Rogers, Head, Bayne, Boyd, Davies, Duncan, Dunham, Grizzle, Grover, Hosking, Jensen, Lovell, Lovshin and Plumb

Associate Professors Brady, DeVries, Maceina, Masser, Phelps, Popma, Rouse and Wallace Assistant Professor Szedlmayer

- 201. COMMERCIAL MARINE FISHERIES OF ALABAMA (3). Summer. Exploitation and biology of commercial vertebrates and invertebrates of Alabama and the adjoining Gulf of Mexico, with emphasis on distribution, harvesting technology, processing and economic values. Laboratory exercises include visits to local processing plants and a trawling expedition. Taught only at Dauphin Island Sea Lab.
- 312. PRACTICAL FISH CULTURE (5), AS ARRANGED. Credit will be arranged for 3 months in a state or federal hatchery or in an approved commercial hatchery or on other phases of fish culture. All students wishing to take this course must obtain permission from the head of the department.
- 315. FISHERIES AND ALLIED AQUACULTURES INTERNSHIP (1-5). S/U graded. Discipline-related learning while employed with cooperating private industry and state and lederal agencies.
- UNDERGRADUATE SEMINAR (1). Fall. Consideration of various aspects of fisheries work, career
  options as related to individual interests and curriculum planning.
- LIMNOLOGY (5). LEC. 3, LAB. 6, Pr., CH 104, PS 205, BI 103 or departmental approval. Spring. Biological, chemical and physical factors affecting aquatic life.
- 402. FISH HEALTH MANAGEMENT (5). LEC. 4, LAB. 3. Pr., BI 103 or departmental approval. Spring. Parasitic, bacterial and viral diseases of fish and economically important crustacean and molluscan species. Emphasis on management practices to control diseases.
- 423. WATER QUALITY MANAGEMENT IN AQUACULTURE (5). LEC. 5. Pr., CH 203, 208 or departmental approval. Fall. Chemical and biological aspects of water quality are presented. Lectures stress fundamental concepts applicable to a number of water management fields. Special effort is made to develop relationships between water quality and fish culture and practical information on water quality management is presented.
- 425. MANAGEMENT OF AQUATIC FLORA IN FISHERIES AND AQUACULTURE (5). LEC. 3, LAB. 6. Pr., BI 102 or departmental approval. Summer, odd years. The role of aquatic vegetation in fish production, its utilization and control.
- 454. HATCHERY MANAGEMENT I (5). Pr., FAA 511, Winter, Warm-water fish seed production systems.
- HATCHERY MANAGEMENT II (5). LEC. 2, LAB. 9. Pr., FAA 454. Spring. Utilization of modern advances in induced and natural warm-water fish spawning.
- 498. SPECIAL PROBLEMS IN FISHERIES AND AQUACULTURES (1-5). Pr., senior standing. A student can register for a total of not more than five hours credit.

- 501. COMMERCIAL AQUACULTURE (3). LEC. 3. Pr., BI 103. Winter. Status and potential of commercial aquatic farming in Alabama and the Southeastern United States; resources required for diversification of agriculture through aquatic crops and their integration with traditional land crops.
- 506. CATFISH PRODUCTION (5). Summer, even years. Pr., BI 103 or departmental approval. Principles and practices of farm commercial catfish production. Offered as week-long short course at Auburn with preparatory reading and additional day field trip.

- 510. DRGANIZATION, PROGRAMMING AND IMPLEMENTATION OF AQUACULTURAL EXTENSION (3). LEC. 1, LAB. 6. Pr., AEC 202 or equivalent. Summer. Concepts and practices pertaining to aquacultural extension organization, administration, program development and implementation in the U.S. and developing countries.
- 511. PRINCIPLES OF AQUACULTURE (5). LEC. 5. Pr., BI 103 and junior standing. Winter. Principles underlying aquatic productivity and levels of management as demonstrated by present practices of fish culture around the world.
- 519. MARINE AQUACULTURE (9). Pr., ZY 401, FAA 538 or ZY 538. Summer. An introduction to principles and technologies applied to the culture of commercially important marine organism. Offered only at the Gulf Coast Research Laboratory, Ocean Springs, MS.
- 520. AQUACULTURAL PRODUCTION I (5), LEC, 3, LAB. 8. Pr., BI 103. Spring. Farm organization and operation. Development of skills and attitudes of applied, practical aquaculture emphasizing facility organization and scheduling, equipment use, establishing fish pond populations and crop management in ponds and other culture facilities.
- 521. AQUACULTURAL PRODUCTION II (5). LEC. 3, LAB. 8. Pr., BI 103. Summer. Application and practice of aquacultural technology and management emphasizing fish health, nutrition, hatchery operations, water quality and general environmental management.
- AQUACULTURAL PRODUCTION III (5), LEC. 3, LAB. 8, Pr., BI 103, Fall. Advanced field application of aquacultural practices emphasizing fish inventory, harvesting and transporting, pest management and aquacultural practices assessment.
- 523. AQUACULTURE PRODUCTION IV (5). LEC. 3, LAB. 6. Pr., FAA 520, 521 and 522. Winter. Analysis and evaluation of yearly aquaculture production data and appraisal of the operations profitability. Execution and presentation of an annual aquaculture work plan based on yearly culture expenses.
- POND CONSTRUCTION (5). LEC. 2, LAB. 9. Fall. Principles and practice of site selection, design and construction of aquacultural facilities with emphasis on ponds.
- 536. MANAGEMENT OF SMALL IMPOUNDMENTS (5), LEC. 3, LAB. 6. Pr., BI 103. Spring. Consideration of the species of fish used in management of small impoundments, species balance, population balance analysis, methods of correcting unbalanced conditions, renovation of old impoundments and related problems of water management.
- 537, FISHERIES BIOLOGY (3). Pr., BI 103, Winter. Introduction to vital statistics of fish populations.
- 538. GENERAL ICHTHYOLOGY (5). LEC. 3, LAB. 6. Pr., BI 103. Fall. Survey of functional morphology, classification and distribution of fishes. Introduction to faunistic literature of North America and the world. Identification of fishes from the Gulf of Mexico and North American fresh waters.
- 539. FISHERIES BIOLOGY LABORATORY (2). LAB. 6. Pr., FAA 537 or departmental approval. Winter. Lab exercises in sampling, (bias, precision, accuracy) population estimation, age, growth, mortality and population dynamics models.
- 542. MARINE FISHERIES MANAGEMENT (6). Pr., departmental approval. Summer. An overview of practical marine fishery management problems. Offered only at the Gulf Coast Research Laboratory, Ocean Springs, MS.
- 550. MARINE ICHTHYOLOGY (9). Pr., ZY 306, FAA 538 or ZY 538, and/or departmental approval. Surnmer. General background in the biology of marine fishes. Emphasis placed on the principles involved in the classification and taxonomy of marine and estuarine fishes. Offered only at the Gulf Coast Research Laboratory, Ocean Springs, MS.
- PROFESSIONAL AND RESEARCH ORIENTATION (3). LEC. 3. Pr., senior standing. Fall. Concepts
  of professionalism, professional ethics, technical writing, research design and operations.

# Foreign Languages and Literatures

Professors Alvarez, Escarpanter, Henkels, Madrigal and Spencer Associate Professors Glaze, Head, Buck, Latimer, Morris, Nadar and Torrejón,

Assistant Professors Gramberg, Katainen, Kuntz, Miranda, Mitrevski, Pozin, Raby and Weigel

It is to the advantage of students to begin foreign language at the highest possible level because by so doing they can gain college credits through advanced placement. On the basis of the Foreign Language Department's evaluation of their previous foreign language training and/or test scores, they may enter the second, third or fourth quarter course in a language. If they make a grade of C or higher, they will receive 10, 15 or 20 hours, respectively (5 credit hours for the course and 5, 10 and 15 hours, respectively, for advanced placement). If students are well enough prepared, they may enter at a level higher than the fourth quarter, but they will not receive more than 15 hours through advanced placement.

If they do not earn at least a C, they will not be granted advanced placement credit. They may then enter the language at a lower level, re-enter at the same level or attempt another approved language. Credits earned through advanced placement may be applied toward

graduation as well as toward foreign language requirements in various curricula.

While eligible for advanced placement as indicated above, students who are native speakers in a foreign language may begin courses in that language only at the 300-level or higher - excluding conversation courses altogether - if they have received substantial academic preparation in that same language (such as the French Baccalaureat, the German Abitur, the Spanish Bachillerato or higher).

Students who are either foreign or U.S. ethnic native speakers in a foreign language, but with minimal or limited academic preparation therein, may begin courses in that language only at the 200-level or higher. If special situations arise, such as foreign language learning through extensive residence abroad, the advisor for the specific language involved will make an appropriate entry level determination, within the framework of these guidelines, upon request of the instructor in whose class the student is enrolled.

In following courses, the (*) denotes the course carries five quarter hours of credit only when taken in the Auburn Abroad Program. Auburn Abroad costs vary by geographic location. Current program costs are available from the department.

### LANGUAGE PROFICIENCY, INTERNSHIPS AND HONORS COURSES

- 177-178. READING PROFICIENCY IN RUSSIAN. (3). Pr. FL 177 for FL 178 or departmental approval. Winter, Spring. Primarily for graduate students, who should consult their advisors for specific departmental language requirements. FL 178 channels students into their field of study, e.g., humanities, social sciences and sciences. May not be used to satisfy undergraduate language requirements. S/U grade only.
- 391. LYRIC DICTION PROFICIENCY IN FRENCH, GERMAN, ITALIAN. (3). Winter, Stress on phonetics and prosody. Primarily for undergraduate students in music seeking technical control of lyric diction and prosody in French, German and Italian. May be used for foreign language students for elective credit only. This course does not substitute for the three quarters of foreign language required for the Bachelor of Music degree. May be repeated without credit.
- 470, HONORS READING AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program; junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor.
- HONORS THESIS. (3-6). A requirement for the honors student. Directed readings and research terminating in a thesis. May be repeated once for a maximum of six hours credit.
- 499. FOREIGN LANGUAGE INTERNATIONAL TRADE INTERNSHIP (1-6). Pr., junior standing and departmental approval. Specific number of hours and applicability toward major to be determined in consultation with the advisor. May be repeated for a maximum of six credits.
- DIRECTED READINGS ON WRITINGS BY AND ABOUT WOMEN (1-5). Readings on women authors and the representation of women in literature (excluding American and English writers).
- 502. SEMINAR ON WRITINGS BY AND ABOUT WOMEN (3). Seminar on women authors and the representation of women in literature (excluding American and English writers). Seminar may be repeated with change in topics.

### LATIN (LN)

- 101-102-103. FIRST YEAR LATIN I-II-III (5-5-5). LN 101 pr. for 102; LN 102 pr. for LN 103. Fundamentals of Latin; language skills stressed with increasing emphasis on reading, including selections from ancient authors.
- 201-202-203. SECOND YEAR LATIN I-II-III (5-5-5), Pr., LN 103 or equivalent. LN 201 pr. for 202; LN 202 pr. for 203. Exceptions to this sequence may be granted by departmental consent or when course offerings so require. Review of Latin grammar and syntax and survey of Latin literature through selected readings of authors primarily from the Golden and Silver Ages, 80 B.C. ca. 140 A.D.
- 399. SPECIAL TOPICS IN LATIN LITERATURE (1-5). Pr., LN 201 or departmental approval. Advanced readings in Latin prose and poetry. Credit evaluation determined by the Classics faculty on the basis of appropriateness and intensity of the activity. Topics will change. May be repeated with change in topics.

### FRENCH (FR)

- 101-102-103. FIRST YEAR FRENCH I-II-III (5-5-5). FR 101 pr. for 102; FR 102 pr. for 103. Fundamentals of French; language skills stressed with progressive emphasis on conversation. Exposure to French civilization.
- 111-112. READING PROFICIENCY IN FRENCH. (3). Pr., FR 111 for FR 112 or departmental approval. Winter and Spring. Primarily for graduate students, who should consult their advisors for specific departmental language requirements. FR 112 channels students into their field of study, e.g., humanities, social sciences and sciences. May not be used to satisfy undergraduate language requirements. S/U grade only.

- FRENCH PHONETICS AND PRONUNCIATION (1) Pr., FR 101 or equivalent, Introduction to French
  phonetics and practice in basic French pronunciation patterns.
- 201-202-203. SECOND YEAR FRENCH I-II-III (5-5-5). Pr., FR 103 or equivalent. FR 201 pr. for 202; FR 202 pr. for 203. Exceptions to this sequence may be granted by departmental consent or when course offerings so require. Language skills stressed; structural review and composition; reading in French literature; exposure to French civilization.
- 301. FRENCH CONVERSATION (3 OR 5 *). Pr., FR 203 or equivalent. Fall. Practice in spoken, everyday French, based on texts and situations concerning contemporary life especially in France. May be repeated once for credit but counted only once toward a major.
- 302. FRENCH COMPOSITION (3 OR 5 *). Pr., FR 203 or equivalent. Winter. Practice in writing letters, brief articles, themes and reports, based on original composition and on translation. May be repeated once for credit but counted only once toward a major.
- FRENCH CIVILIZATION (3). Pr., FR 203 or equivalent. Spring. Consideration of topical aspects of the cultural heritage of France, as reflected in present day life patterns, traditions and institutions.
- 304. FRENCH PHONETICS AND DICTION (3 OR 5*), Pr., FR 203 or equivalent. Spring. Basic principles of French phonetics and diction through sound recognition, discrimination and intensive practice.
- 311. SURVEY OF FRENCH LITERATURE I (3 OR 5"). Pr., FR 203 or equivalent. Fall, Readings in French literature from the Middle Ages through the 18th century. Emphasis on the 17th and 18th centuries.
- 312. SURVEY OF FRENCH LITERATURE II (3 OR 5 *), Pr., FR 203 or equivalent. Winter. Readings in French literature from the 19th and 20th centuries.
- 321. BUSINESS FRENCH (3). Pr., FR 203 or equivalent. Intensive practice in preparing commercial correspondence and reading contracts, agreements and related documents in French. Emphasis will be placed on the acquisition of a business-oriented vocabulary.
- 331. SPECIAL TOPICS IN FRENCH LITERATURE CULTURE OR LANGUAGE (3 OR 5**). Pr., FR 203 or equivalent. Focus on special aspects of French literature or culture along with social, political, intellectual issues and cultural reflections or an in-depth study of French syntax, morphology or phonetics. The focus will be announced at least one quarter prior to its being scheduled. May be repeated once for credit.
- 402. ADVANCED GRAMMAR AND STYLISTICS (3). Pr., FR 302 and three other 300-level French courses or equivalent. Practice in writing and analyzing French texts, with emphasis on advanced grammar topics and stylistics.
- TRANSLATION (3). Pr., FR 302 and three other 300-level French courses or equivalent. Techniques and problems of English-French and French-English translation.
- 421. FRENCH FOR INTERNATIONAL TRADE (4), Pr., FR 321 or equivalent. Continues topics in FL 329. Practical exercises in preparing and translating trade correspondence and documents in French, as well as assigned group work and case studies under simulated real-life pressures.
- 431. ADVANCED TOPICS IN FRENCH LITERATURE, CULTURE OR LANGUAGE (3). Pr., four 300-level French courses or equivalent. Advanced aspects of French literature or culture along with social, political and intellectual issues and cultural aspects of texts. May be repeated once for credit.
- 432. INDEPENDENT WORK IN FRENCH (3 OR 5 *). Pr., four 300-level French courses or equivalent. Directed study in area of special interest for the superior student in French. May be repeated once for credit.
- 433. FRENCH CONTINUING CONVERSATION (1). Pr., FR 301 and 302 or equivalent. Continuing practice in spoken French to maintain and upgrade proficiency while completing other requirements for graduation. May not be counted toward a major, but may be repeated once for credit.
- 434. FRENCH CONTINUING COMPOSITION (1). Pr., FR 301 and 302 or equivalent. Continuing practice in written French to maintain and upgrade proficiency while completing other requirements for graduation. May not be counted toward a major, but may be repeated once for credit.

### GERMAN (GR)

- 101-102-103. FIRST YEAR GERMAN I-II-III (5-5-5). LEC. 4, LAB. 2. GR 101 pr. to 102; 102 pr. to 103. Fundamentals of German. Stress on language skills, with emphasis on conversation. Exposure to Germanic civilization.
- 111-112. READING PROFICIENCY IN GERMAN. (3). Pr., GR 111 for 112 or departmental approval. Winter and Spring. Primarily for graduate students, who should consult their advisors for specific departmental language requirements. GR 112 channels students into their fields of study, e.g., humanities, social sciences and sciences. May not be used to satisfy undergraduate language requirements. S/U grade only.
- 201-202-203. INTERMEDIATE GERMAN I-II-III (4-4-4). Pr., GR 103 or equivalent. GR 201 pr. to 202; 202 pr. to 203. Exceptions to the sequence may be granted by departmental consent or when course offerings so require. Stress on language skills; structural review and composition; readings in German literature and exposure to German civilization.

- BEGINNING GERMAN COMPOSITION AND CONVERSATION (3). Pr., GR 203 or equivalent. Fall. Concentration on writing and speaking skills. Review of selected segments of grammar.
- 302. INTERMEDIATE GERMAN COMPOSITION AND CONVERSATION (3), Pr., GR 301 or departmental approval. Winter Further development of writing and speaking skills. Continued review of selected segments of grammar.
- 303. ADVANCED GERMAN COMPOSITION AND CONVERSATION (3). Pr., GR 302 or departmental approval. Spring. Intensive practice and refinement of writing and speaking skills. Strategies of vocabulary acquisition and retention.
- CULTURE AND CIVILIZATION I (3). Pr., GR 203. Fall. Social, political and cultural history of Germany from the Germanic tribes to 1918.
- CULTURE AND CIVILIZATION II (3). Pr., GR 203. Winter. Social, political and cultural history of Germany from 1918 to the present.
- INTRODUCTION TO LITERATURE (3). Pr., GR 203 or equivalent. Spring. Basic literary genres and major figures in German literature. Familiarization with literary methodologies and bibliographical tools.
- 314. SEMINAR IN GERMAN LITERATURE (3). Pr., GR 201 or equivalent. Summer. Readings in German literature from selected periods. Normally offered in Summer only.
- 401. BUSINESS GERMAN (3 or 5 °), Pr., GR 303 or equivalent. Intensive practice in preparing commercial correspondence and reading contracts, agreements and related documents in German. Emphasis will be placed on the acquisition of a business-oriented vocabulary.
- 402. GERMAN FOR INTERNATIONAL TRADE (3 or 5 *), Pr., GR 401 or equivalent. Practice in handling, preparing and translating international trade correspondence and documents in German. Development of case studies and other realistic international trade group work in German and English, under simulated real-life pressures.
- 403. SELECTED TOPICS IN GERMAN LITERATURE, LANGUAGE AND CULTURE (3). Pr., four 300-level German courses. May be repeated for credit when topic changes.
- INDEPENDENT WORK IN GERMAN (3 or 5 *). Pr., at least one 400-level German course and departmental approval. Directed study in area of special interest for the superior student in German. May be repeated once for credit.
- 408. GERMAN CONTINUING CONVERSATION (1). Pr., four 300-level German courses, including GR 301, 302, 303 or equivalent. Continuing practice in spoken German to maintain and upgrade proficiency while completing other requirements for graduation. May be repeated once for credit, but counted only once toward a major.
- 409. GERMAN CONTINUING COMPOSITION (1). Pr., four 300-level German courses, including GR 301, 302, 303 or equivalent. Continuing practice in written German to maintain and upgrade proficiency while completing other requirements for graduation. May be repeated once for credit, but counted only once toward a major.
- GERMAN CLASSICISM (3). Pr., four 300-level German courses or equivalent. Alternate Fall. Consideration, analysis and criticism of German writing of the classical period.
- GERMAN ROMANTICISM (3). Pr., four 300-level German courses or equivalent. Alternate Winter. Consideration, analysis and criticism of German Romantic writing.
- 413. GERMAN REALISM AND NATURALISM (3). Pr., four 300-level German courses or equivalent. Alternate Spring. Consideration, analysis and criticism of German writing of Realism and Naturalism.
- GERMAN DRAMA (3). Pr., four 300-level German courses or equivalent. Alternate Fall. Consideration, analysis and criticism of selected German theater.
- 20TH-CENTURY GERMAN LITERATURE (3). Pr., four 300-level German courses or equivalent. Alternate Winter, Consideration, analysis and criticism of selected German prose prior to 1945.
- CONTEMPORARY GERMAN LITERATURE (3). Pr., four 300-level German courses or equivalent. Alternate Spring. Consideration, analysis and criticism of selected German writing since 1945.
- 499. FOREIGN LANGUAGE INTERNATIONAL TRADE INTERNSHIP IN GERMAN (1-6). Pr., junior standing and departmental approval. Specific number of hours and applicability toward major to be determined in consultation with the advisor. May be repeated for a maximum of six credits.

#### ITALIAN (IT)

- 101-102-103. FIRST YEAR ITALIAN I-II-III (5-5-5). LEC. 4, LAB. 2. IT 101 pr. to 102; 102 pr. to 103. Fundamentals of Italian. Language skills stressed (comprehension, reading, oral and written communication, grammar). Exposure to Italian culture and civilization.
- 201-202-203. SECOND YEAR ITALIAN I-II-III (5-5-5), LEC. 4, LAB. 2. Pr., IT 103 or equivalent. IT 201 pr. to 202; 202 pr. to 203. (Exceptions to this sequence may be granted by departmental consent or when course offerings so require.) Stress on language skills; structural review and composition; readings in Italian literature and exposure to Italian culture and civilization.

- 275. INTRODUCTION TO ITALIAN CULTURE (3). Intensive exposure to Italian culture from Roman times to the present, as reflected in Italy's history, literature, arts and political development. Emphasis on the social, artistic, spiritual and political forces that shaped Italian culture and its contribution to world cultures. Guest lectures.
- 399. SPECIAL TOPICS IN ITALIAN (1-5). Supplementary instruction concurrent with experience in some field of Italian language, literature and culture. Credit evaluation determined by the Italian faculty on the basis of appropriateness and intensity of the activity. A written report or a test is required. May be repeated for a maximum of 10 hours.

## PORTUGUESE (PT)

- 101-102-103. FIRST YEAR PORTUGUESE I-II-III (5-5-5). PT 101 pr. to 102; 102 pr. to 103. Fundamentals of Portuguese. Stress on language skills; progressive emphasis on conversation. Exposure to Luso-Brazilian civilization.
- 201-202-203. SECOND YEAR PORTUGUESE I-II-III (5-5-5). Pr., PT 103 or equivalent. PT 201 pr. to 202; 202 pr. to 203. Exceptions to this sequence may be granted by departmental consent or when course offerings so require. Stress on language skills; structural review and composition; readings in Luso-Brazilian literature. Exposure to Luso-Brazilian civilization.

## RUSSIAN (RU)

- 101-102-103. FIRST YEAR RUSSIAN I-II-III (5-5-5). RU 101 pr. to 102; 102 pr. 103. Fundamentals of Russian. Stress on language skills; progressive emphasis on conversation. Exposure to Russian civilization.
- 111-112. BEGINNING RUSSIAN FOR READING COMPREHENSION I-II (3-3). RU 111 or equivalent, pr. to 112. Not open to students who have completed RU 101-103 or above. Exceptions may be granted by departmental consent. Emphasis on acquiring reading skills in Russian. Reading from contemporary Soviet print media.
  - 201-202-203. SECOND YEAR RUSSIAN I-II-III (5-5-5). Pr., RU 103 or equivalent. RU 201 pr. to 202; 202 pr. to 203. Exceptions to this sequence may be granted by departmental consent or when course offerings so require. Stress on language skills; structural review and composition. Readings in Russian literature; continued exposure to Russian civilization.
  - 274. INTRODUCT(ON TO RUSSIAN CULTURE (in English) (5). Intensive exposure to Russian culture from the 10th century to the Revolution, as reflected in the fine arts and literature. Emphasis on geographic, social, artistic, spiritual and political forces in the shaping of Russian culture and its contribution to world cultures. Frequent guest lecturing by faculty from other departments.
  - 275. INTRODUCTION TO SOVIET CULTURE (in English) (5). Intensive introduction to Soviet culture from the Revolution to the present, as reflected in the fine arts and literature. Emphasis on the social, artistic, spiritual and political forces in the shaping of Soviet culture. Frequent guest lecturing by faculty from related departments and programs.
  - RUSSIAN CONVERSATION (3). Pr., RU 203 or equivalent. Practice in spoken Russian, based on reading of literary texts and on situations concerning contemporary life in the Soviet Union.
  - 302. RUSSIAN COMPOSITION (3). Pr., RU 203 or equivalent. Practice in writing letters, brief articles, themes and reports, based on original compositions, literary texts and other topics.
  - RUSSIAN CIVILIZATION (3). Pr., RU 203 or equivalent. Review of the cultural heritage of the Russian language as reflected in literature and folklore.
  - RUSSIAN LITERATURE FROM 1820-1860 IN TRANSLATION (3). Literary history of the period: selected works by Pushkin, Lermontov, Gogol, Goncharov, Turgenev.
  - 352. RUSSIAN LITERATURE FROM 1860-1917 IN TRANSLATION (3). Dostoevsky, Tolstoy, Chekhov.
  - 353. SOVIET RUSSIAN LITERATURE FROM 1917 TO THE PRESENT IN TRANSLATION (3). Analysis and criticism of literary movements and selected writers.
  - 399 SPECIAL TOPICS IN RUSSIAN (1-5). Supplementary instruction concurrent with experience in some field of Russian language, literature and culture. Credit evaluation determined by the Russian faculty on the basis of appropriateness and intensity of the activity. A written report or a test is required. May be repeated for a maximum of 10 hours.

#### SPANISH (SP)

- 101-102-103. FIRST YEAR SPANISH I-II-III (5-5-5). SP 101 pr. to 102; 102 pr. to 103. Fundamentals of Spanish. Language skills stressed with progressive emphasis on conversation. Exposure to Hispanic civilization.
- 111-112. READING PROFICIENCY IN SPANISH (3). Pr., SP 111 for 112 or departmental approval. Winter, Spring. Primarily for graduate students, who should consult their advisors for specific departmental language requirements. SP 112 channels students into their field of study, e.g., humanities, social sciences and sciences. May not be used to satisfy undergraduate language requirements. S-U grading only.

### Foreign Languages and Literatures

- 201-202-203. SECOND YEAR SPANISH I-II-III (4-4-4). Pr., SP 103 or equivalent. SP 201 pr. to 202; 202 pr. to 203. Exceptions to this sequence may be granted by departmental consent or when course offerings so require. Language skills stressed; structural review and composition; reading in Spanish literature; exposure to Hispanic civilization.
- 301, SPANISH PHONETICS (3), Pr., SP 202 or equivalent. Training in practical phonetics with specific course materials determined by the needs of the students.
- SPANISH SYNTAX (3). Pr., SP 203 or equivalent. Sentence structure in Spanish emphasizing the interrelationship among the various parts.
- 303. SPANISH CONVERSATION (3 OR 5 *). Pr., SP 301 or equivalent. Intensive practice in the spoken language, with simultaneous review of vocabulary and structure. May be repeated once for credit but counted only once toward a major.
- 304. SPANISH COMPOSITION (3 OR 5 *). Pr., SP 302 or equivalent. Practice in writing letters, brief articles, themes and reports, based on original composition and translation. May be repeated once for credit but counted only once toward a major.
- INTRODUCTION TO HISPANIC LITERATURE (3). Pr., SP 303, 304. Literary genres, rhetorical figures and other literary terms to be applied to the analysis of Spanish and Spanish American texts.
- 307. SPANISH-AMERICAN COMMUNITY DIALOGUE (3). Pr., SP 303 or 304. Practical Spanish for American public safety personnel with emphasis on learning key phrases useful when handling situations involving authoritative intent, cooperation or offering of assistance. Medical and legal terminology including specific vernacular and idiom variations. Offering Spring, odd years.
- 309. SEMINAR IN ADVANCED COMPOSITION AND CONVERSATION (3 or 5 *). Pr., SP 303, 304 or equivalent. Summer, Intensive practice in composition and conversation through original and directed themes as well as through oral presentations. May be repeated once for credit.
- 310. SPANISH CIVILIZATION I (3). Pr., SP 303, 304 or equivalent. Alternate Fall. Intensive exposure to the culture of Spain up to 1700 as reflected in the fine arts and literature. Emphasis on geographic, historical, social, artistic, spiritual and political forces in Spanish civilization and its contribution to world cultures.
- 311. SPANISH CIVILIZATION II (3). Pr., SP 303, 304 or equivalent. Alternate Winter. Intensive exposure to the culture of Spain from 1700 to 1900, as reflected in the fine arts and literature. Emphasis on geographic, historical, social, artistic, spiritual and political forces in Spanish civilization and its contribution to world cultures.
- 312. SPANISH CIVILIZATION III (3). Pr., SP 303, 304. Intensive exposure to the culture of Spain from 1900 to the present, as reflected in the fine arts and literature. Emphasis on geographic, historical, social, artistic, spiritual and political forces in Spanish civilization and its contribution to world cultures.
- 313. SPANISH AMERICAN CIVILIZATION I (3). Pr., SP 303, 304 or equivalent. Alternate Fall. Intensive exposure to the culture of pre-Colombian Spanish America to Independence as reflected in the fine arts and literature. Emphasis on geographic, historical, social, artistic, spiritual and political forces in Spanish American civilization and its contribution to world cultures.
- 314. SPANISH AMERICAN CIVILIZATION II (3). Pr., SP 303, 304 or equivalent. Alternate Winter. Intensive exposure to the culture of Spanish America from Independence to the 20th century as reflected in the fine arts and literature. Emphasis on geographic, historical, social, artistic, spiritual and political forces in Spanish American civilization and its contribution to world cultures.
- 315. SPANISH AMERICAN CIVILIZATION III (3). Pr., SP 303, 304 or equivalent. Alternate Spring. Intensive exposure to the culture of contemporary Spanish America as reflected in the fine arts and literature. Emphasis on geographic, historical, social, artistic, spiritual and political forces in Spanish American civilization and its contribution to world cultures.
- 316. SEMINAR IN HISPANIC CIVILIZATION (3 or 5 **). Pr., SP 303, 304 or equivalent. Summer. An intensive study of an aspect of Hispanic civilization. Students taking the course abroad will also visit sites and museums in the country of residence. May be repeated for credit.
- BUSINESS SPANISH (3). Pr., SP 303, 304 or equivalent. Intensive practice in commercial terminology in Spanish. Emphasis will be placed on the acquisition of a business-oriented vocabulary.
- 321. SPANISH FOR INTERNATIONAL TRADE (3). Pr., SP 320 or equivalent. Practice in handling, preparing and translating international trade correspondence and documents in Spanish. Development of case studies and other realistic international trade group work in Spanish.
- 322 COMMERCIAL SPANISH TRANSLATION (3). Pr., SP 303, 304 or equivalent. Spring. The problems and approaches to commercial translation emphasizing the primary areas in which translations are most used; business letter, export-import documentation and conversation.
- 401. SEMINAR IN PRACTICAL PHONETICS (3 or 5 *). Pr., SP 301 or 302 or equivalent, Advanced training in practical phonetics with specific course assignments determined by needs of students. May be repeated once for credit.

- 408. SPANISH CONTINUING CONVERSATION (1). Pr., SP 301 or 302 or equivalent. Continuing practice in spoken Spanish to maintain and upgrade proficiency while completing other requirements for graduation. May be repeated once for credit.
- 409. SPANISH CONTINUING COMPOSITION (1). Pr., SP 301 or 302 or equivalent. Continuing practice in written Spanish to maintain and upgrade proficiency while completing other requirements for graduation. May be repeated once for credit, but counted only once toward a major.
- SURVEY OF SPANISH LITERATURE TO 1700 (3). Pr., SP 305 or equivalent. Alternate Fall. Development of Spanish literature from its beginnings through the Golden Age (1700).
- 411. SURVEY OF MODERN SPANISH LITERATURE (3). Pr., SP 305 or equivalent. Alternate Winter. Panorama of Spanish literature between 1700 and 1900.
- 412. SURVEY OF CONTEMPORARY SPANISH LITERATURE (3). Pr., SP 305 or equivalent. Alternate Spring. Panorama of the development of contemporary Spanish literature from the Generation of '98 to the present.
- 413. SURVEY OF SPANISH AMERICAN LITERATURE I (3). Pr., SP 305 or equivalent. Alternate Fall. Panorama of Spanish American literature from the discovery of America to Modernism.
- 414. SURVEY OF SPANISH AMERICAN LITERATURE II (3), Pr., SP 305 or equivalent. Panorama of Spanish American literature from Modernism to Vanguardism.
- 415. SURVEY OF SPANISH AMERICAN LITERATURE III (3). Pr., SP 305 or equivalent. Panorama of Spanish-American literature from Vanguardism to the present.
- 418. SEMINAR IN HISPANIC LITERATURE (3 or 5 *). Pr., four 300-level Spanish courses or equivalent. Readings in Hispanic literature from selected genres, authors, periods or movements. May be repeated once for credit.
- INTERNATIONAL TRADE INTERNSHIP IN SPANISH (1-6). Pr., junior standing and departmental approval.

### CHINESE (CN)

- 101-102-103: FIRST YEAR CHINESE I-II-III (5-5-5). CN 101 pr. for 102; 102 for 103. Fundamentals of Chinese. Stresson language skills, with progressive emphasis on conversation. Exposure to Chinese civilization.
- 201-202-203. INTERMEDIATE CHINESE I-II-III (5-5-5). Pr, CN 103 or equivalent. CN 201 pr. for 202; 202 pr. for 203. Stress on language skills; structural review and composition; readings in Chinese literature and exposure to Chinese civilization.
- INTRODUCTION TO CONTEMPORARY CHINESE CULTURE (in English) (3). Emphasis on geographic, social, artistic and spiritual forces in contemporary Chinese culture.
- 285. INTRODUCTION TO CHINESE CIVILIZATION (in English) (3). Emphasis on literature and arts.

#### JAPANESE (JP)

- 101-102-103. FIRST YEAR JAPANESE I-II-III (5-5-5). JP 101 pr. for 102; 102 pr. for 103. Fundamentals of Japanese. Stress on language skills, with progressive emphasis on conversation. Exposure to Japanese civilization.
- 201-202-203. SECOND YEAR JAPANESE I-II-III (5-5-5). Pr., JP 103 or equivalent. JP 201 pr. to 202; 202 pr. to 203. Stress on language skills; structural review and composition, readings in Japanese literature and exposure to Japanese culture and civilization.

## FRENCH (FR) ADVANCED UNDERGRADUATE AND GRADUATE COURSES

- 521. FRENCH FOR INTERNATIONAL TRADE (4). Pr., FR 321 or equivalent. Practice in handling, preparing and translating international trade correspondence, documents and related legal procedures in French. Development of case studies and other international trade group work in French and in English, under simulated real-life pressures.
- 531. SEMINAR IN FRENCH LITERARY GENRES AND MOVEMENTS (4 or 5 *). Pr., four 300-level French courses or equivalent. Selected readings in French literary genres or movements.
- 532. SEMINAR IN ADVANCED LANGUAGE SKILLS (4 or 5 *). Pr., four 300-level French courses or equivalent. Practice in writing and speaking French. Exercises include compositions and exposés. May be repeated for credit.

#### SPANISH (SP) ADVANCED UNDERGRADUATE AND GRADUATE COURSES

501. SEMINAR ON CONVERSATION AND PHONETICS (3). Pr., four 300-level Spanish courses or equivalent. May be repeated once for credit, but for no more than six hours total for SP 501 and 511 together. Advanced training in Spanish conversation and phonetics with specific course materials determined by needs of students.

- 502. SEMINAR ON COMPOSITION AND STYLISTICS (3). Pr., four 300-level Spanish courses or equivalent. May be repeated once for credit, but for no more than six hours total for SP 502 and 512 together. Advanced training in Spanish composition and stylistics with specific course materials determined by needs of students.
- 511. ABROAD SEMINAR ON CONVERSATION AND PHONETICS (3). Pr., four 300-level Spanish courses or equivalent. May be repeated once for credit, but for no more than six hours total for SP 501 and 511 together. Advanced training in Spanish conversation and phonetics with specific course materials determined by needs of students. Course only offered through Auburn University Study Abroad Programs.
- 512. ABROAD SEMINAR ON COMPOSITION AND STYLISTICS (3). Pr., four 300-level Spanish courses or equivalent. May be repeated once for credit, but for no more than six hours total for SP 502 and 512 together. Advanced training in Spanish composition and stylistics with specific course materials determined by needs of students. Course only offered through Aubum University Study Abroad Programs.

#### COURSES OFFERED ONLY IN AUBURN - ABROAD (FRANCE) (FR)

- 228. INTERMEDIATE FRENCH CONVERSATION (5). Pr., FR 103 or equivalent or approval of French Advisor. Summer. Intensive practice in the spoken language with simultaneous review of vocabulary and structure. May be repeated once for credit. When combined with FR 229 can count toward the major or minor in lieu of FR 221.
- 229. INTERMEDIATE FRENCH GRAMMAR AND COMPOSITION (5). Pr., FR 103 or equivalent or approval of French Advisor. Summer, Intensive review of French grammar, with emphasis on problem areas and written practice. May be repeated once for credit. When combined with FR 228 can count toward the major or minor in lieu of FL 221.
- FRENCH CIVILIZATION (5). Pr., FR 203 or equivalent. Summer. Consideration of selected aspects
  of French civilization in the light of historical cultural developments.
- 553. ADVANCED FRENCH CIVILIZATION (5). Pr., lour 300-level French courses or equivalent. Summer. An in-depth study of French civilization, with emphasis on historical, political and cultural influences. May be repeated for credit.

## COURSES OFFERED ONLY IN AUBURN - ABROAD (GERMANY) (GR)

- INTENSIVE GERMAN LANGUAGE (5). Summer. Introduction to German. Basic German grammar and conversation. May be substituted for GR 103.
- 204. INTERMEDIATE GERMAN (5). Pr., GR 103 or equivalent or approval of German Advisor. Summer. Grammar, conversation and reading. Intensive practice in German with simultaneous review of vocabulary and structure. Does not substitute for GR 201, 202 or 203, but may count toward the major or minor in German.
- 304. GERMAN CONVERSATION (5). Pr., GR 203 or departmental approval. Summer. Practice in spoken, everyday German, based on texts and situations concerning contemporary life in Germany or other German-speaking countries.
- 306. GERMAN COMPOSITION (5), Pr., GR 203 or departmental approval. Summer. Practice in writing letters, brief articles, themes and reports based on original composition and translation.

#### COURSES OFFERED IN GERMANY (GR)

- 211. GERMAN CONVERSATION GERMANY (5). Pr., GR 253 or equivalent. Practice in spoken every-day German, based on texts and situations concerning contemporary life in Germany or other German-speaking countries.
- GERMAN COMPOSITION GERMANY (5). Pr., GR 253 or equivalent. Practice in writing letters, brief articles, themes and reports based on original compositions.
- MODERN GERMANY GERMANY (5), Pr. GR 253 or equivalent. Political and economic development of Germany since 1945.
- ADVANCED CONVERSATION GERMANY (5). Pr., GR 257 or equivalent. Discussions based on utilization of television news broadcasts and documentaries.
- ADVANCED COMPOSITION GERMANY (5), Pr., GR 258 or equivalent. Practice in writing business letters and other forms of business communications.
- 309. GERMAN CURRENT AFFAIRS GERMANY (5). Pr., GR 259 or equivalent. Discussions and reports on current affairs using a variety of newspapers and journals.

# COURSES OFFERED ONLY IN AUBURN - ABROAD (RUSSIA) (RU)

- INTERMEDIATE RUSSIAN CONVERSATION (5). Pr., RU 103 or equivalent or departmental approval. Intensive practice in the spoken language with simultaneous review of vocabulary and structure.
- SEMINAR IN RUSSIAN CIVILIZATION (5). Pr., RU 103 or equivalent or departmental approval, Intensive study of Russian civilization. Students will visit art museums, cultural events and historical sites in Russia.

- SEMINAR IN BUSINESS RUSSIAN (5). Pr., RU 203 or equivalent, Intensive study of the fundamentals of business-oriented language to enable students to read and prepare commercial documents in Russia.
- SEMINAR IN TRANSLATION OF TECHNICAL RUSSIAN (5). Pr., RU 203 or equivalent or departmental approval. Familianzes students with technically-oriented vocabulary and terminology.

### COURSES OFFERED ONLY IN AUBURN - ABROAD (SPANISH) (SP)

- 238. INTERMEDIATE SPANISH CONVERSATION (5*). Pr., SP 103 or equivalent or approval of Spanish Advisor. Summer. Intensive practice in the spoken language with simultaneous review of vocabulary and structure. May be repeated once for credit but counted only once toward the major.
- 239. INTERMEDIATE SPANISH GRAMMAR AND COMPOSITION (5"). Pr., SP 103 or equivalent or approval of Spanish advisor. Summer. Intensive review of Spanish grammar, with emphasis on problem areas and written practice. May be repeated once for credit but counted only once toward the major.
- SEMINAR IN SPANISH CIVILIZATION (5*). Pr., SP 303, 304 or equivalent. Summer, Intensive study
  of Spanish civilization through Spanish art. Students will visit various art museums in Spain. May be
  repeated for credit.
- 330. SEMINAR IN BUSINESS SPANISH (3-5*). Pr., SP 303, 304 or equivalent. Summer. Intensive study of the specialized spoken and written business terminology of Spanish. Emphasis on practical usage through direct contact with the Hispanic business environment. May be taken as substitution for SP 320, with consent of advisor.
- 331. SEMINAR IN SPANISH FOR INTERNATIONAL TRADE (3-5"). Pr., SP 320 or 330 or equivalent. Summer, Intensive study in handling, preparing and translating international trade correspondence and documents in Spanish. Emphasis on practical applications through direct contact with the Hispanic business environment. May be taken as substitution for SP 321, with consent of advisor.

# Forest Engineering (FYE)

Professors Thompson and Turnquist Associate Professors Lanford and Tufts Assistant Professors Brinker, Taylor and Wilhoit Affiliate Associate Professor Stokes

- 101. INTRODUCTION TO AGRICULTURAL AND FOREST ENGINEERING (1). LEC. 1, LAB. 2. S/U graded. Winter. Perspectives on the agricultural and forest engineering profession. Creative design and the engineer's approach to problem solving. Introduction to the technical specialties of engineering for agriculture and forestry and career opportunities. (Same as AN 101).
- 130. INTRODUCTION TO ENGINEERING DESIGN FOR BIOLOGICAL SYSTEMS. (1). LAB. 3. Spring. Supervised engineering project to design components and/or systems to solve a real problem in an agricultural or forestry related industry. Open only to students classified 01 or 02. (Same as AN 130).
- ENGINEERING PRINCIPLES IN BIOLOGICAL SYSTEMS (5). LEC. 4, LAB. 3, Pr., MH 161. Coreq., CSE 120. Fall. Engineering concepts and principles applied to agricultural and forest problems. Creativity and design. Unit operations of agricultural and forest engineering. (Same as AN 201).
- INTRODUCTION TO FORESTRY OPERATIONS (2). LAB. 6. Pr., BI 102, MH 169. Summer. Introduction to basic field and manufacturing operations in the forest industry.
- FOREST SURVEYING (5), LAB. 15. Pr., MH 162 or 169. Summer. Basic concepts and procedures of surveying as applied to forestry.
- 311. MOBILE EQUIPMENT DESIGN FUNDAMENTALS (4). LEC. 3, LAB. 3. Pr., EGR 201, 235, MH 265 and AN/FYE 201 or departmental approval. Winter. Basic engineering analysis, synthesis and design concepts applied to mobile field equipment and machines for agricultural, forestry and industrial use. Includes engine performance, power transmission, traction mechanics, mechanics of machines and machine-operator interface and safety. (Same as AN 311).
- 313. LAND AND WATER CONSERVATION ENGINEERING (3). LEC. 2, LAB. 3. Pr., AN/FYE 315. Spring. Rainfall-runoff relationships. Soil erosion and its prediction and control. Hydraulic structures and open channel flow. (Same as AN 313).
- 315. PROCESS ENGINEERING FOR FOREST SYSTEMS (5). LEC, 4, LAB, 3. Pr., AN/FYE 201, CE 310, EGR 201. Winter. Design principles and equipment selection for crop, food and feed storage, preservation and manufacturing. Thermal processing, curing, drying, refrigeration, materials handling, pumps, fans and storage processing. (Same as AN 315).
- FOREST ROADS DESIGN (3). LEC. 2, LAB. 3. Pr., FYE 304. Winter. Design, construction and maintenance of secondary and temporary road systems. Not open to engineering students.
- 401. FOREST MACHINE DESIGN (3). LEC. 3. Pr., AN/FYE 311, EGR 207. Spring. Engineering analysis and design of forest machinery. Includes engineering characteristics of logs related to machine design, site preparation and planting equipment review, felling equipment design, loader kinematics, cable systems mechanics and machine reliability (Same as AN 401).

- 402. FOREST TRANSPORTATION SYSTEMS DESIGN (3). LEC. 2, LAB. 3. Pr., FYE 304, 313. Fall. Design of the forest transportation system including pre-construction planning, horizontal and vertical alignment, earthwork volume and distribution analysis and drainage control structures for the road network and specifications for the vehicles that will use the network. (Same as AN 402).
- 403. APPLIED STRUCTURAL ANALYSIS AND DESIGN (3) LEC. 2, LAB 3, Pr., EGR 207, Fall. Analysis and design of structural systems of agriculture and forestry. (Same as AN 403).
- 430. ENGINEERING DESIGN FOR BIOLOGICAL SYSTEMS I (4) LEC. 3, LAB. 3. Pr., AN/FYE 403, senior standing, departmental approval. Winter. Design of equipment, structures and systems for food, feed, fiber, forest products and animal production and processing utilizing engineering principles (Same as AN 430).
- SPECIAL TOPICS (2-5). (CREDIT TO BE ARRANGED.) Pr., departmental approval. May be taken more than one quarter for a maximum of 10 quarter hours. (Same as AN 490).
- 491. HONORS READING AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program; junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor. Special topics of an undergraduate nature pertaining to forest engineering.
- 492. HONORS THESIS (1-6). Pr., admission to University Honors Program; junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor. Directed research and writing of honors thesis.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 509. HYDRAULIC CONTROL SYSTEMS (4). LEC. 3, LAB. 3. Pr., CE 310 or ME 340. Fall. Design and analysis of hydraulic systems. Application of sizing hydraulic pumps, motors, valves and accessories for industrial and mobile systems. Laboratory emphasizes hands-on testing and functional analysis of components and systems, including measurement of pressure, flow and power. (Same as AN 509).
- 530. ENGINEERING DESIGN FOR BIOLOGICAL SYSTEMS II (4). LEC. 2, LAB. 6. Pr., AN/FYE 430 and departmental approval. Spring. A supervised engineering design project to design components and/ or systems to solve a real problem in an appropriate industry. Utilization of many engineering principles is required. (Same as AN 530).
- 570. HARVESTING (3), LEC. 2, LAB. 3, Pr., FY 319, 540 or School approval. Coreq., FYE 523, FY 541. Spring. Harvesting systems, cost analysis and environmental impacts.
- ADVANCED HARVESTING (2), LEC. 2. Pr., FYE 570 or departmental approval. Spring. Analysis of harvesting systems with attention to solutions of specific problems in harvesting.
- 572. ENGINEERING DESIGN OF FOREST HARVESTING SYSTEMS (4). LEC. 3, LAB. 3. Pr., FYE 401, 402, FY 540. Spring. Design of optimal forest harvest systems from component machines. Emphasizes methods of data collection and analysis, model development and optimization. Topics include: linear regression; queuing theory; simulation; system balance; cost and productivity of components and systems.
- 590 SPECIAL TOPICS. (CREDIT TO BE ARRANGED.) (2-5), Pr., departmental approval. May be taken more than one quarter for a maximum of 10 quarter hours. (Same as AN 590).

# Forest Management (FY)**

Professors Thompson, Bengtson, Gjerstad, Kelley, Lockaby, Raper and South Associate Professors Chappelka, Flick, Glover, Golden, Mitchell, Somers and Teeter Assistant Professors Bliss, Davis, DeBrunner, Flynn,

Jones, McNabb and Meldahl Affiliate Professors Farrar, Mexal and Rogers

Affiliate Associate Professors Abt, Boring, Boyer, Carter, Caulfield, McMahon, Michael, Miller and Thornton

Affiliate Assistant Professors Duzan and Edwards

- ** Prerequisites may be waived by departmental approval concerned, for junior and senior students in other departments.
- 200. INTRODUCTION TO FORESTRY AND FOREST PRODUCTS (3). LEC. 3. Historic development of forestry and forest products professions, career opportunities and current technical, social and economic issues influencing forestry and forest products.
- COMPUTER APPLICATIONS IN FORESTRY (3). LEC. 2, LAB. 3. Pr., MH 169. An introduction to computer programming using microcomputers and BASIC language. Mainframe and telecommunications are introduced.
- INTRODUCTION TO FOREST BIOLOGY (2), LAB. 6. Pr., BI 102, MH 169. Summer. Introduction to biological principles as used in management of forest properties. Emphasis on ecology.

- 305. FIELD MENSURATION (4). LAB. 12. Pr., FY 220, MH 169. Summer. Basic concepts and procedures for measuring trees and stands, units of measure used in forestry; application of log rules and volume tables; condition class mapping; elementary timber estimating.
- INTRODUCTION TO FOREST MANAGEMENT (2). LAB. 6. Pr., BI 102, MH 169. Summer. Introduction to basic forest management, including concepts of multiple use.
- 310. DENDROLOGY (4). LEC. 2, LAB. 6. Pr., BI 102 or School approval. Coreq., FY 320. Fall. Taxonomy and identification of important forest plants of the U.S., including cover types of forest regions. A weekend field trip is required. Students are expected to bear costs of food and lodging for the field trip.
- FOREST MEASUREMENTS I (4). LEC. 2, LAB. 6. Pr., FY 305, FYE 304, DMS 215 or School approval. Coreq., FY 310. Fall. Theoretical concepts of tree and log measurements, development of volume tables, sampling theory and design.
- FOREST MEASUREMENTS II (5), LEC, 3, LAB. 6. Pr., FY 318 or School approval. Coreq., FY 540.
   Winter. Factors affecting and mathematical principles of tree and stand growth.
- FOREST TREE PHYSIOLOGY (3), LEC. 3. Pr., CH 104, FY 302, PS 200. Coreq., FY 310, 311 or School approval. Fall. Relationship between environmental and genetic factors. Metabolism and growth of individual trees.
- FOREST ECOLOGY (3). LEC. 2, LAB. 3. Pr., AY 305, FY 318, 320 or School approval. Winter. Basic concepts and principles of forest ecology including forest community-environment relationships.
- 344. ENVIRONMENTAL LAW (4). Pr., junior standing. Federal, state and local law on conservation and regulation of environmental matters.
- 350. FORESTRY FOR WOODLAND OWNERS (5). LEC. 5. Pr., sophomore standing. (Not open to students in Forestry curricula.) Understanding trees and their value in our economy. The application of forestry principles to management of small woodlands.
- FORESTRY TOUR (1-3). LAB. (2-9). Tours up to two weeks long to points of outstanding interest to foresters. May be taken more than once if different tours are involved.
- 417. FOREST PHOTOINTERPRETATION AND REMOTE SENSING (3). LEC. 2, LAB. 3. Pr., MH 161, FYE 304. Geometry of and measurement from vertical aerial photographs; the use of aerial photographs and other remote sensory techniques in forestry.
- FOREST GEOGRAPHY (2). LEC. 2. Pr., or Coreq. FY 323. Winter, Spring. Silvical characteristics of specific tree species. Major forest types of the U.S.
- 427. AIR POLLUTION EFFECTS ON FORESTS (4). LEC. 3, LAB. 3. Pr., FY 320 and 323 or departmental approval. Basic concepts of air pollution effects to forested ecosystems with emphasis on sources, transport, mechanisms of toxicity and relationships to other environmental stresses.
- 429. FOREST SOILS (4). LEC. 3, LAB. 3. Pr., AY 305 and FY 523. Use of soil science principles in forest management. Principles of forest site evaluation, forest land classification, nutrient cycling, forest fertilization, erosion control, forest soil degredation and plant establishment.
- 444. FOREST FIRE CONTROL AND USE (2). LEC. 1, LAB. 3. Pr., FY 323 or departmental approval. Winter. Use of fire in land management and protection of forests from wild fire.
- 460. WILDLAND RECREATION PHILOSOPHY AND POLICY (3), LEC. 3, Pr., senior standing. Spring. Philosophy and policy of wildland recreation. Laws and traditions at federal, state and local levels of government as well as industrial and other landowners' outlooks and developments relative to wildland recreation.
- 463. FOREST RECREATION PLANNING AND MANAGEMENT (2). LEC. 2. Pr., FY 302, 306 or departmental approval. Planning for and management of lands which can provide recreational opportunity for people.
- WOOD PROCUREMENT (2). LAB. 4. Pr., FY 541 or departmental approval. Spring. Principles, problems and practices involved in providing raw material to the forest products industry.
- INDUSTRIAL WOOD PROCUREMENT PRACTICUM (1). LAB. 3. Pr., FY 305. Careq., FY 319.
   Spring. Field and office procedures and strategies involved in purchasing wood for an industrial forestry firm. Course may be taken twice for credit. S/U grading only.
- 485. FOREST MANAGEMENT PRACTICUM (3). LEC. 1, LAB. 6. Pr., FY 541. Definition, analysis and solution of forestry problems. Requires integration of previously learned forestry material in an economic decision making framework.
- 491. HONORS READINGS AND SPECIAL TOPICS (3-6). Pr., admission to the University Honors Program, junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with consent of the Honors Program Advisor. Special topics of an undergraduate nature pertinent to forestry.
- 492. HONORS THESIS (1-6). Pr., admission to the University Honors Program, junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the University Honors Program with consent of the Honors Program Advisor. Individual student endeavor consisting of directed research and writing of honors thesis.

- 495. DIRECTED STUDY (1-5 each). Pr., departmental approval and junior standing. Maximum of 10 hours in all areas as credit toward the Bachelor of Science degree. Areas of study (A) Forest Management. (B) Forest Economics, (C) Forest Sampling, (D) Regression Analysis. (E) Linear Programming, (F) Forest Photogrammetry, (G) Forest Mensuration, (H) Forest Engineering, (I) Forest Soils, (J) Forest Ecology, (K) Forest Genetics, (L) Tree Physiology, (M) Wood Anatomy & Quality, (N) Uses of Wood & Derived Products, (O) Chemistry of Wood Glues, Finishes & Impregnants, (P) Timber Physics, (Q) Recreation, (R) Remote Sensing, (S) Wood Procurement, (T) Forest Pathology and (U) Silviculture.
- 499. HONORS PROJECT (2-5). Senior standing. A problem in the student's area of interest. Will test ability to do thorough library research, field work, data analysis or other tasks related to high level independent work.

- 523. SILVICULTURE (4). LEC. 3, LAB. 3. Pr., FY 323 or junior standing and School approval. Coreq., FY 541, FYE 570. Spring. Methods of controlling establishment, composition, growth and quality of forest stands. Application of ecological principles to manipulation of forest ecosystems to meet specific objectives.
- 524. FOREST WATERSHED MANAGEMENT (2). LEC. 2. Pr., FY 323 or senior standing and School approval. Winter. A survey of forest hydrology as a specialized branch of ecology. The use of forests and forestry practices for the regulation of streamflow.
- 525. ARTIFICIAL FOREST REGENERATION (3). LEC. 2, LAB. 3. Pr., FY 523 or School approval. Presentation and discussion of current problems and practices involved in establishment of plantations in the Southern U.S. Principles of nursery management, tree improvement, seedling symbiology, seedling establishment, vegetation management and site interactions.
- 540. FOREST ECONOMICS (4), LEC. 3, LAB. 3, Pr., EC 202 or AEC 202 or School approval. Coreq., FY 319 Winter, Marginal analysis applied to forestry. Investment theory and forestry decisions. Theories of resource supply and economics of conservation. Structure and performance of forest products markets. Principles and influence of taxation in forestry. The U.S. as a component of the world forest economy.
- 541. FOREST MANAGEMENT AND ADMINISTRATION (4). LEC. 3, LAB. 3. Pr., FY 540 or School approval. Coreq., FY 523, FYE 570. Spring. Quantitative approaches to decision-making in forestry, Models for forest regulation, multiple objective planning and other selective forestry problems. Decision-making in private and public forestry firms/agencies. The administration of large forestry programs and the influence of outside regulations. Relies heavily on previous forestry courses.
- 542. FOREST POLICY (3), LEC. 3. Pr., FY 540 or School approval. Spring. Historical review of U.S. Forest Policy. Analysis of social and resource characteristics that have shaped policy issues/decisions at regional and national levels.
- 548. ADVANCED FOREST ECONOMICS (3). LEC. 3. Pr., FY 540. Winter. Input-output relationships in forest production. Computation of financial maturity of trees and stands. Competition for resources in the management of forest properties. Uses of land and evaluation of intangible values associated with land.
- TOPICS IN FOREST MEASUREMENTS (2). LEC. 2. Pr., DMS 501. Instrumentation, development of volume units and forest inventory for graduate students without forestry background. Graduates only.
- 565. URBAN FORESTRY (4). LEC. 3, LAB. 3. Pr., BI 102, FY 310 or HF 222, or equivalent.. Principles and concepts of tree establishment, management and maintenance in an urban environment. Development of a management plan.
- 590. SEMINAR IN FORESTRY (1). Pr., senior standing. Advanced current literature and recent developments, with written and verbal reports on selected problems.
- 593. PRACTICUM (1-5). May be repeated not to exceed 10 hours credit. Not open to majors in Forestry curricula. Provides experience in Forestry relating theory and practice, usually carried out simultaneously.

### Forest Products (FP)

Professors Biblis and Tang Associate Professors Carino and Elder Affiliate Professors Conner and Soltis Affiliate Associate Professors Price and She

- 206. WOOD MEASUREMENTS (3), LEC. 2, LAB. 3. Pr., MH 161, Fall. Wood measurements and tree identification oriented toward the needs of students in Forest Products and Wood Science.
- 301. INTRODUCTION TO FOREST PRODUCTS AND WOOD SCIENCE (5). LEC. 5. (Not open to students in Forestry curricula.) Introduction to fundamentals in Wood Science and Technology; Utilization and manufacture of major forest products.

- 302. WOOD AND WOOD PRODUCTS IN FURNITURE AND HOUSE INTERIORS (3). LEC. 3, Spring. Presents an understanding of the relationships between the properties of various wood materials and their function when used as components of furniture and house interiors.
- 311. STRUCTURE OF WOOD (5). LEC. 3, LAB. 6. Spring. Structure of woods at macroscopic and microscopic level, emphasizing microstructure of cell wall and effect on wood properties. Introduction to microtechniques.
- SOLID WOOD PRODUCTS (3), LEC. 3, Pr., FP 311. Winter, Manufacturing, specifications and grading of solid wood products derived from forest lands. Field trips will be required.
- 339. INTRODUCTION TO WOOD SCIENCE (3). LEC. 2, LAB. 3. Pr., FY 310. Fall. The manufacture of lumber, plywood, paper and various composition boards from wood. Modern production technologies used in forest products industries. Identification of important products and woods.
- 370. WOOD AS AN ART MEDIUM (3). LEC. 1, LAB. 4. For students majoring in the Fine Arts. Winter. Basic technology and properties of wood as applied to its use as an art medium. Wood identification, design of wood forms and effects of moisture on the dimensional stability of wood. Design problems involving wood.
- FOREST PRODUCTS I (4). LEC. 3, LAB. 3. Pr., FP 339. Spring. Manufacture and proper use of solid wood products, primarily lumber.
- 474. WOOD GLUING AND COATING (3). LEC. 2, LAB. 3. Pr., FP 311, FP 330. Concurrently. Winter. Types and characteristics of adhesives and wood coating materials. Use of adhesives and wood coating materials in primary and secondary wood products manufacture operations.
- WOOD-BASED PANEL TECHNOLOGY (3). LEC. 2, LAB. 3. Pr., FP 311, FP 330. Spring. Design, manufacture, properties and application of plywood, particle-board, fiberboard and composite panels.
- 477. PULP AND PAPER TECHNOLOGY (3). LEC. 2, LAB. 3, Pr., FP 311. Fall. Pulping processes, fiber refining and processing, manufacture of paper, fiber and paper properties, recycling of paper and water requirements and effluent treatment.
- 478. INTRODUCTION OF WOOD CHEMISTRY (4), LEC. 3, LAB. 3, Pr., CH 203, FP 311. Winter, Chemical composition of wood, chemical analyses of wood components and their derivatives and utilization. Energy from wood and forest residues.

- 513. MICROTECHNIQUES OF HARD MATERIALS (5). LEC. 1, LAB. 12. Pr., FP 311 or departmental approval. Preparation and sectioning of hard materials for microscopic study. Care and use of the sliding microtome and diamond saw, staining, counterstaining and mounting of sections.
- FOREST PRODUCTS II (4). LEC. 3, LAB. 3. Pr., FP 420. Winter. Manufacture and proper use of veneer and particle based panel products and other composite products. Several extended field trips required.
- 525. PHYSICAL PROPERTIES OF WOOD (4). LEC. 3, LAB. 3. Pr., PS 206, FP 311, Fall. Wood-moisture relationships, diffusion, permeability, plasticization, density and specific gravity. Thermal, electrical and acoustical properties of wood.
- 531. MECHANICAL PROPERTIES OF WOOD (4). LEC. 3, LAB. 3. Pr., FP 311. Winter, Mechanical properties of wood, factors affecting the strength of wood, principles used in design of wood structures. Testing procedures.
- 532. DETERIORATION AND WOOD TREATING PROCESSES (3). LEC. 3. Pr., FP 311 Fall. Biological deterioration of wood and wood products. Wood preservatives and industrial treating processes of wood products. Field trips will be required.
- 533. WOOD DRYING PROCESSES (3). LEG. 2, LAB. 3. Pr., FP 525. Winter. Physical principles of kiln drying, industry drying methods and procedures, drying defects and prevention.
- 534. MECHANICS & STRUCTURAL DESIGN WITH WOOD PRODUCTS (4). LEC. 3, LAB. 3. Pr., FP 475, FP 531. Spring. Engineering design and mechanical behavior of solid wood and composite wood structural members as applied to building construction.
- 535. FOREST PRODUCTS PRODUCTION MANAGEMENT (4). LEC. 3, LAB. 3. Pr., FP 339, 420. Fall. Application of economic-engineering principles to manufacturing solid wood products. Problem solving as related to economic decision making in forest products industry.
- 536. FOREST PRODUCTS MARKETING (3). LEC. 3. Pr., FP 330, FP 475. Winter. Historical and current analyses of forest products marketing at manufacturing, wholesale and retail level. Applications of marketing systems to forest products industries.
- 537. POLLUTION PROBLEMS IN THE FOREST INDUSTRY (3). LEC. 3. Senior standing. Spring. Causes and control of pollution problems associated with forest industries. Air, water, noise and solid-waste problems are identified during the conversion of wood and forest residues into forest products and energy. Special topics from industrial members.

### Geography

## Geography (GY)

Professor Dawsey, Chair, and Martinson
Associate Professor Perritt
Assistant Professors Bailey, Hicks, Icenogle and Masucci
Instructor Organ
Adjunct Assistant Professor Getz
Adjunct Instructors Harker and Ihle

- 102 WORLD GEOGRAPHY (5). Important characteristics of the land and people of the major regions of the world.
- 214. INTRODUCTION TO PHYSICAL GEOGRAPHY (5). Selected elements of the earth's physical system to include such items as landforms, basic weather elements, soils and vegetation.
- 215. INTRODUCTION TO HUMAN GEOGRAPHY (5). An introduction to the various subfields of human/cultural geography, including population, agricultural geography, linguistic geography, the geography of religion, ethnic geography and economic and urban geography.
- FIELD GEOGRAPHY (5). Field mapping, data gathering, sampling procedures, interviewing and research design in physical geography and human geography.
- INTRODUCTORY CARTOGRAPHY (5). Cartographic technology, spatial data manipulation and generalization and cartographic production and reproduction.
- CLIMATOLOGY (5). Pr., 10 hours GY or departmental approval. Climate elements, controls and world patterns.
- ECONOMIC GEOGRAPHY COMMODITY PRODUCTION (5). Pr., five hours GY or departmental approval. Distribution and environmental relationships of man's principal economic activities.
- 303. THE FORMER SOVIET UNION LAND AND PEOPLE (5). Survey of the physical environment and cultural development of the region. Natural resources, economic activities, social patterns, political processes, problems and prospects of the former Soviet Union.
- 304. LATIN AMERICA LAND AND PEOPLE (3). Survey of the physical environment and cultural development of the region. Natural resources, economic activities, social patterns, political processes, problems and prospects of the major Latin American countries.
- 305. THE UNITED STATES AND CANADA LAND AND PEOPLE (3), Survey of the region incorporating physical and cultural elements which provide a synthesis of the economic and political processes, developments and prospects for the United States and Canada.
- 306. EUROPE LAND AND PEOPLE (3). Regional analysis of Europe from a systematic viewpoint, including among others the physical environment, population distribution, religion, politics and economics. Selected nations will be used for case studies within their regional setting and to illustrate Europe's global relationships.
- 307. ASIA (3) Introduces students to the regional geography of Asia and provides an analysis of the area including an examination of its physical bases and history of development. Also considered are geographical patterns related to resources, political conditions, economic activity and population, with a focus on the major countries.
- 308. AFRICA LAND AND PEOPLE (5), Survey of the physical and cultural geography of Africa with emphasis placed on the regions and countries of greater economic and international importance.
- AGRO-CLIMATOLOGY. (5). Pr., 10 hours GY or departmental approval. Principles of climatology that
  are significant for agriculture, with focus on the Southeastern United States.
- 315. ALABAMA LAND AND PEOPLE (3). Survey of the physical environment and cultural development of the state. Natural resources, economic activities, social patterns, problems and prospects of the state in its regional setting will be covered.
- INTERNATIONAL TRAVEL AND TOURISM (3). Environmental and cultural patterns related to tourism, with specific country examples.
- 325. GEOGRAPHY FORUM (3). Special topics from departmental speakers series.
- 360. LOCATION ANALYSIS (5). Focus on fundamentals of classical location theory as the basis for understanding geographical underpinnings of theories of economics development and critique of classical theoretical approaches based on the dynamics of industrial and social organizations.
- 399. INDEPENDENT READINGS IN GEOGRAPHY (1-6). May be repeated for a maximum of six hours credit. No more than five hours may be taken at one time. Directed readings and reports on topic approved by professor in charge.
- 400. SEMINAR IN GEOGRAPHY (5), Pr., 20 hours GY or departmental approval. Development of modern geographic thinking with attention to applied research topics, including use of Geographic Information Systems technology in applied research, gender and social theory and ethics in planning and resource management.

- 401. THE GEOGRAPHY OF INTERNATIONAL RELATIONS (5). General elective. The interaction between the natural-physical environment and the international activities of world powers. Emphasis on the changing geographic and economic patterns in world affairs.
- 440. ADVANCED CARTOGRAPHY (5). Pr., GY 240, five hours GY or departmental approval. Develops understanding of theories and practices of modern cartography.
- 499. GEOGRAPHY APPRENTICESHIP (5). Pr., 10 hours GY or departmental approval. Matches capable geography students with faculty undertaking research projects to provide them with practical experience in geographical research. No more than 10 credits may be earned in GY 499 and 599.

- 500. RESEARCH TECHNIQUES (5). Pr., 25 hours GY or departmental approval. To develop effective thinking skills, to evaluate written materials in geography, to review geographical research, to produce written reports and papers related to geographical themes and issues.
- 504. GEOGRAPHY OF ENVIRONMENTAL MANAGEMENT (5). Pr., 10 hours GY or departmental approval. Increases understanding of the policies and methods to foster environmentally sustainable resource development.
- 505. INTERNATIONAL DEVELOPMENT (5). Pr., 10 hours of GY or departmental approval. Interrelationships among people, cultures and the physical environment in the process of world development.
- 507. GLOBAL RESOURCES AND ENVIRONMENT (5). Pr., 10 hours GY or departmental approval. Survey of global environmental issues and problems and review of the latest international mechanisms for improvement of world resource management.
- 510. PROBLEMS OF THE SOUTHEAST (5), Pr., 10 hours GY or departmental approval, Significant spatial characteristics and relationships of the region's human and physical environment.
- 520. URBAN GEOGRAPHY (5). Pr., 10 hours GY. Social and material processes and conditions related to urban environments contributing to contemporary theories, images and changes of urban structure.
- 530. NATURAL RESOURCES PLANNING (5). Pr., 10 hours GY or departmental approval. Evaluation and current practice of resource management in the U.S. with emphasis on water resources and river basin management. Focus on principles of multiple objective resource evaluation and project design.
- 540. LAND USE, VALUES, PERCEPTIONS AND MANAGEMENT (5). Pr., 10 hours GY or PA 102 or departmental approval. Foundation in ethical, perceptual and values systems associated with use of land and ownership related to development and planning in the U.S. as a basis for evaluating current resource management practices.
- 550. AGRICULTURAL GEOGRAPHY (5). Pr., 20 hours GY or departmental approval. Geographical approaches to agriculture and influences of the physical environment and human factors on agricultural patterns.
- 570. INTERPRETATION OF AERIAL PHOTOGRAPHY AND REMOTE SENSING IMAGERY (5). Pr., 20 hours GY or departmental approval. Aerial photo and satellite digital image interpretation, remote sensing technology and photogrammetry.
- GEOGRAPHIC INFORMATION SYSTEMS (5). Pr., 20 hours GY or departmental approval. Provides students with no previous experience with an understanding of the basic concepts of computerized geographic information systems (GIS).
- 591. INTERNSHIP/FIELD EXPERIENCE PREPARATION (5). Preparation for study abroad and foreign internship to be taken prior to special overseas programs.
- 598. FOREIGN INTERNSHIP (5-15). Pr., GY 591 or departmental approval. Offers credit for students engaged in internships abroad. S/U grading only.
- INTERNSHIP (5). Pr., 20 hours GY or departmental approval. Offers credit for geography students engaged in internships. Department permission required. S/U grading only.

## Geology (GL)

Professors Cook, Head, and Carrington Alumni Professor Gastaldo

Associate Professors Chalokwu, King, Lewis, Saunders and Savrda Assistant Professors Steltenpohl and Wolf

- 105. GEOLOGY OF THE NATIONAL PARKS (3). LEC. 3. Fall. Examination and discussion of the geologic processes responsible for the unique characteristics of selected national parks based on their description as "Geologic features worthy of preservation and protection" by the U.S. Department of the Interior.
- 106. GEOLOGY OF OUR SOLAR SYSTEM (3). LEC. 3. Spring. Examination of our sun and its planets from the geologist's perspective by the use of recently acquired data from manned and unmanned sample-return missions, remote geochemical and geophysical experiments and remotely-sensed photogeology.

- 110. PHYSICAL GEOLOGY (5). LEC. 4, LAB. 2. General physical geology. Survey of the important minerals and rocks with emphasis on the processes that effect their formation and destruction. Origin and classification of geologic structures. Not open to students having credit in GL 315.
- 111. HISTORICAL GEOLOGY (5). LEC. 4, LAB. 2. Pr., GL 110. Physical and biological history of the Earth, with emphasis on the evolution of life forms.
- 205. PALEOBOTANY (5). LEC. 4, LAB. 2. Pr., BI 102, sophomore standing. Fall. Taphonomic processes responsible for the generation of plant-bearing lithologies, hydrocarbon accumulating systems, biostratigraphic assemblages, paleoecological restorations of the Phanerozoic and evolution of plant groups.
- INVERTEBRATE PALEOZOOLOGY (5). LEC. 4, LAB. 2. Pr., BI 103, sophomore standing. Winter. Morphology, classification and significance of selected genera representative of the diversity of fossil invertebrates, including microscopic fossils.
- GEOLOGICAL FIELD METHODS (6). LAB. 12. Pr., GL 240. Summer. Instruments and methods used in geological field mapping. Final report required.
- 231. INDEPENDENT GEOLOGICAL MAPPING (2). LAB. 5. Coreq., GL 215, sophomore standing. Independent mapping project of limited extent done with the consent and under the direction of a faculty member. A geological map and report must be completed, summarizing the investigation of the area chosen.
- 240. STRUCTURAL GEOLOGY (5). LEC. 3, LAB. 4. Pr., GL 110 or 315. Spring. Fundamentals of rock deformation. The mechanics of rock flow, fracture and folding. Geometric techniques of structural analysis.
- MINERALOGY (5). LEC. 4, LAB. 2, Pr., CH 103, junior standing. Fall. Introduction to crystal chemistry and crystallography. Systematic study of representatives of important metallic and non-metallic mineral groups.
- OPTICAL MINERALOGY (5), LEC. 4, LAB. 2. Pr., GL 301, junior standing. Winter. Theory and application of polarized light optics as applied to mineral identification, with emphasis on rock-forming silicate minerals in thin sections.
- IGNEOUS AND METAMORPHIC PETROLOGY (5). LEC. 4, LAB. 2. Pr., GL 302 and CH 105, junior standing. Spring. Principles and processes of intrusive and extrusive igneous activity and metamorphism. Description and classification of igneous and metamorphic rocks.
- 315. ENGINEERING GEOLOGY (4). LEC. 3, LAB. 2, Pr., junior standing. Fundamental geological principles, materials and features that affect engineering projects and programs. Emphasis on pre-construction geological analysis in recognition of potential construction and post-construction hazards and problems. Not open to students having credit in GL 110.
- 401. SEDIMENTARY PETROLOGY (5). LEC. 4, LAB. 2. Pr., GL 302 and CH 105, junior standing. Fall. Detailed description and classification of sedimentary rocks, with emphasis on the processes of sediment transportation, deposition and diagenesis in marine and non-marine environments.
- STRATIGRAPHY (5). LEC. 4, LAB. 2. Pr., GL 205, 206, 240 and 401, junior standing. Winter. Descriptive geology pertaining to the discrimination, character, thickness, sequence, age and correlation of rocks. Particular emphasis on field study of stratified rocks.
- 421. ECONOMIC GEOLOGY (5), LEC. 4, LAB. 2. Pr., GL 240, 305 and 401, junior standing. Spring. The origin, distribution and classification of mineral deposits formed by igneous, metamorphic and sedimentary (or secondary) processes. Introduction of methods of exploration and development.
- 426. INTRODUCTION TO GEOCHEMISTRY (3). LEC. 3. Pr., CH 105, GL 103. Winter. Principles governing distribution of chemical elements related to igneous, metamorphic and sedimentary processes; progressive differentiation of Earth; and surficial weathering of Earth's crust.
- GEODYNAMICS (5), LEC. 3, FIELD TRIPS, Pr., GL 240, MH 161, PS 205. Structure and dynamics of the earth deduced from seismology, gravity, heat flow and magnetism.
- 431. RESEARCH METHODS AND APPLICATION (1-4). Pr., senior majoring in geology and/or consent of departmental faculty upon receipt of acceptable proposal. Active participation in a phase of original research under supervision of a senior investigator. Credit evaluation determined by the departmental faculty on the basis of the formal presentation of the problem and the probable method(s) of investigation. May be taken more than one quarter for a maximum cumulative credit of four credit hours.
- 470. HONORS THESIS (3-6). Pr., enrollment in the University Honors Program. May incorporate library, field or laboratory research in any proportion. Research project and credit-hour value shall be agreed upon by the student and directing faculty member prior to enrollment. Written thesis and thesis defense required. May be repeated once for a maximum of six hours credit.
- 480. DIRECTED STUDY (1-3). Pr., departmental approval. Directed studies in areas of geology not covered by an existing course or to supplement knowledge gained from an existing course. May incorporate liferature and/or laboratory research in any proportion. The subject matter and credit hour value shall be agreed upon by the student and directing faculty member prior to enrollment. A written report is required. May be taken more than one quarter.

The following courses are available during Summer Quarters at the Dauphin Island, Alabama, Sea Laboratory and at the Gulf Coast Research Laboratory, Ocean Springs, MS. Application forms must be obtained from the Department of Geology during final registration for the Winter Quarter preceding intended attendance.

### COURSES AT DAUPHIN ISLAND SEA LABORATORY

- MARINE TECHNICAL METHODS I (3), LAB. 8. Pr., departmental approval. Summer: introduction to instruments and procedures utilized aboard marine research vessels, including physical, biological and geological measurements and sampling techniques.
- MARINE TECHNICAL METHODS II (3). LAB. 8. Pr., departmental approval. Summer, Introduction to laboratory methods associated with chemical parameters of "nutrient analysis." Shipboard and practical skills developed.
- 202. INTRODUCTORY MARINE GEOLOGY (6). LEC. 4, LAB. AND FIELD 4. Pr., Physical Geology and departmental approval. Summer. Sedimentary environments, seafloor topography and history of ocean basins. Sampling and laboratory techniques and relationship of biota to sediment substrate.
- 501. RECENT MARINE SEDIMENTATION (6). LEC. 4, LAB. 4. Pr., GL 202 or ZY 201 or ZY 330 or departmental approval. Summer. Properties of marine sediments, coastal environments, continental margins, reefs and the deep sea. Monitoring and measuring of shoreline changes.
- 502. PROBLEMS IN MARINE PALEOECOLOGY (6). LEC. 4, LAB. 4, Pr., GL 110 and GL 206 or departmental approval. September Preterm, alternate years. Survey of principal Mesozoic and Cenozoic marine fossil groups, their paleoecology and paleogeography.

#### COURSES AT GULF COAST RESEARCH LABORATORY

- 440. PHYSICAL MARINE GEOLOGY (5). LEC. 2, LAB. 5. Pr., consent of departmental advisor, junior standing. Summer. Introduction to physical processes resulting in the coastal morphology of Mississippi Sound, emphasizing erosional and depositional effects of waves and currents. Various environmental types (deltas, estuaries, etc.) and their characteristics are studied. Identification of ancient shorelines and ancient environments.
- 441. CHEMICAL MARINE GEOLOGY (5). LEC. 2, LAB. 5. Pr., consent of departmental advisor, junior standing. Summer. Overview of the chemical systems in the oceans, with emphasis on near-shore marine and estuarine environments. Basic analytical methods currently used to study the marine environment, with a strong concentration on instrumental methods of analyzing natural waters and sediments. Supervised research on chemical systems in the local estuaries, Mississippi Sound and offshore.

- 500. MICROCOMPUTER APPLICATIONS IN GEOLOGY (2). LEC. 2. Pr., departmental approval. Introduction to the utilization of commercially available and public domain software pertinent to solving geological problems. Does not satisfy computer language requirement for B.S. or M.S. degree in geology.
- 505. PRINCIPLES OF ANALYTICAL GEOCHEMISTRY (3). LEC. 2, LAB. 2. Pr., GL 302 or departmental approval. Fall. Basic principles of x-ray diffraction/fluorescence and atomic absorption spectrophotometry, neutron activation will be discussed. Emphasis will be on the utilization of these techniques in the analysis of geological materials.
- HYDROGEOLOGY (5). LEC. 4, LAB. 2. Pr., CH 105, MH 163, PS 207. Fundamentals of groundwater flow in porous media, hydrodynamic dispersion, determination of aquifer properties and geological aspects of groundwater occurences.
- 520. GROUNDWATER GEOCHEMISTRY (3). LEC. 3. Pr., CH 316 or departmental approval. Chemical principles applied to the understanding of factors controlling groundwater composition, with an emphasis on water-mineral reactions. Introduction to chemical equilibrium computer modeling programs.
- 540. PRINCIPLES OF EARTH SCIENCE (5), LEC. 3, LAB. 4. Summer. Special course in earth science for in-service and luture teachers only. Encompasses internal surficial geology, meteorology and oceanography. Stresses theory and applications and includes indoor and field laboratories. Not open to undergraduates with credit in GL 101, 102 or 110. GL 540 is not a substitute for those courses.
- 550. SEDIMENTARY DEPOSITIONAL SYSTEMS (4). LEC. 3, LAB. 2. Pr., GL 401 and 411 or equivalents. Fall. Systematic study of sedimentology and facies stratigraphy of modern and ancient depositional systems; terrigenous-detrital and carbonate depositional environments; analysis of current literature and field work.
- 560. APPLIED GEOPHYSICS (5). LEC. 4, LAB 2. Pr., GL 110 or 315; MH 161. Coreq., PS 207. Overview of geophysical methods with applications to resource, tectonic and environmental analyses. Seismic refraction and reflection, gravity and magnetics; electrical and electromagnetic methods will be included. Covers aspects of data acquisition, experiment design and data interpretation.

### Health Administration (HA)

(Department of Political Science)

Associate Professors Burns, Director, and Ford

Instructor McEldowney

- HEALTH POLICY (5). Pr., PO 209 or 210. The health policy system; political issues affecting health services.
- INTRODUCTION TO HEALTH ADMINISTRATION (5). Pr., HA 320 or departmental approval, plus CSE 100. Basic concepts and principles of administration of health services organizations.
- 361. LEGAL STRUCTURE OF HEALTH ADMINISTRATION (3). Pr. HA 360. Legal processes and aspects affecting the work of administrators of hospitals and other health services organizations.
- 370. HEALTH ADMINISTRATION AND COMMUNITY (3). Pr., HA 360, SOC 220, PO 300. Use of epide-miological methods in analysis of community resources, resource allocation, program implementation and general health administration. Development of strategies for effective community relations by health administrators.
- 450. INTERNSHIP (10). Pr., HA 360, HSA or HSM major and junior standing. (S/U grading only). Practical administrative experience in health services organizations as arranged and approved by the HA Program.
- INTERNSHIP READING COURSE (5). Coreq., concurrent enrollment in HA 450. Independent readings in administration of health services organizations as approved by instructor.
- 500. DEVELOPING HEALTH CARE ORGANIZATIONS (3). Pr., HA 360 or graduate standing and departmental approval. Organizational strategies for effective interfacing of medical, nursing, allied health and administrative staff with patient needs.
- 510. FINANCE IN HEALTH ADMINISTRATION (3). Pr., HA 360 or graduate standing and departmental approval. Reimbursement structures, regulatory mechanisms, cost control and related factors affecting administration of health services organizations.
- HEALTH ADMINISTRATION AND REGULATION (3). Pr., HA 360 or graduate standing and departmental approval. Government regulatory programs affecting administration of health services organizations.
- 531. HEALTH ADMINISTRATION AND TECHNOLOGY (3). Pr., Pr., HA 360 or graduate standing and departmental approval. Effects of developments in modern technology on administration of health services organizations.
- 532. HEALTH ADMINISTRATION AND LONG-TERM CARE (3). Pr., HA 360 or graduate standing and departmental approval. Political and administrative issues in administration of long-term care organizations.
- 539. TOPICS IN HEALTH ADMINISTRATION (1-5). Pr., HA 360 or graduate standing and departmental approval. Analysis of specific problems in health administration. May be repeated for a maximum of 10 hours credit.
- 550. SPECIAL PROBLEMS IN HEALTH ADMINISTRATION (1-5). Pr., HA 360 or graduate standing and departmental approval. Qualified students conduct systematic investigation of selected problems in administration of health services under supervision of instructor. May be repeated for a maximum of 10 hours credit.

# Health and Human Performance (HHP)

Professors Wilson, Head, Davenport, Ford, Gladden and Moore Alumni Professor Reeve Associate Professors Blessing and Fischman Assistant Professors Daliels, Deprez, Hastie, Newkirk, Pascoe, Rosen Sanders, Waldrop and Wang Instructors Ford III and Matthews

The purpose of the Department of Health and Human Performance is for students to develop the basic and applied principles underlying optimal health, maximum physical performance, the appropriate use of leisure time and how to deliver this information in a school or non-school setting. More specifically, in response to societal needs and trends, the Department prepares students to become teachers of physical education (N-12) and non-school professionals in Health Promotion, Exercise Science and Recreation and Sports Management.

### PHYSICAL EDUCATION - GENERAL PROGRAM (PE)

Physical Education Requirements: Refer to School or program requirements.

Credit. All 100- and 200- level PE courses carry two hours credit per quarter and 300-level courses carry one hour credit. (Maximum of six quarter hours allowed on degree.) No student

may receive credit for a course in which the person has previously earned credit.

Students may not register for a beginning level course after having earned credit in the sport or dance area on an advanced level. Credit cannot be earned for a 200- and a 300-level course in the same sport.

To audit, students must secure approval of department head or director of physical education general program.

# PHYSICAL EDUCATION SERVICE COURSES (PE)

- 101. PHYSICAL FITNESS: SELF APPRAISAL (2). Understanding the relationship of human movement to body efficiency, aesthetics and health; self-appraisal; development of a personal plan for achieving and maintaining physical condition; selection of a personal program of developmental and recreational activities.
- 102. SWIMMING FOR THE NON-SWIMMER (2). Knowledge and skill in aquatics which are developed to a level sufficient to support a recreational interest and to assure one's own safety and the safety of others in and around water.
- INDIVIDUALIZED AQUATICS (2). Provides water therapy, an understanding of adaptive movements and aquatic skills.
- 104. MOUNTAINEERING (2). Pr., signed Army form 131. Basic climbing techniques and rappelling. Class presentations covering ropes, knots, snap links and all associated equipment for climbers. Includes both discussion and practical exercises. Requires a weekend field training exercise with climbing and rappelling at Talladega National Forest.
- PISTOL MARKSMANSHIP (2). Pr., signed Army form 131. Basic instruction and pistol firing exercises covering various shooting positions. Exposes students to marksmanship as a challenging recreational sport.
- 107. SPORTS AND DANCE IN AMERICAN CULTURE (2). (ATYPICAL).
- 114. SPECIAL FITNESS RELATED TOPIC (2). Additional fee may be charged by cooperating agency.
- ADAPTED PHYSICAL EDUCATION (2). Concerned with the improvement and correction of physiological and anatomical remedial defects.
- 116. WEIGHT CONTROL (2). Caloric intake-output, nutrition and the development of desirable exercise and nutritional habits. Activities selected according to individual needs and limitations. Open to students with health classifications. "A" and "B."
- 117. AEROBIC DANCE (2).
- 125. BASKETBALL (2).
- 127. SOCCER-SPEEDBALL (2).
- 130. JOGGING (2).
- 131. FENCING (2).
- 132. WRESTLING (2).
- 133. ORIENTEERING (2). Pr., signed Army form 131. Instruction and practical application in land navigation and orienteering to include types of maps, use of lensatic and silva compasses, determination of scale, distance, elevation and relief, map and ground orientation, field expedients for navigation and a working knowledge of the different types of orienteering events. Includes five hours of practical field work.
- 134. JUDO (2).
- 135. WEIGHT TRAINING (2).
- 136. TRACK (2).
- 137. HANDBALL (2).
- 138. RACQUETBALL (2).
- 139. WILDERNESS SKILLS (2). Pr., signed Army form 131. A personal confidence building course that provides an introduction to basic survival skills to include rappelling, food procurement and preparation, traps and snares, climbing techniques, hasty shelters, emergency first aid and field expedient techniques. Requires one weekend field trip to the Talladega National Forest.
- 140. GYMNASTICS (2). Understanding of gymnastics and skill in the use of different apparatus.
- 141. TRAMPOLINE (2).
- 142. TUMBLING (2).
- 144. MODERN DANCE (2). An understanding of dance as an art form
- 145. MODERN DANCE II (2). Pr., PE 144 or equivalent.
- 146. TAP DANCE (2).
- 147. BALLET (2). Fundamentals and terminology of classical ballet.
- 148. BALLET II (2). Pr., PE 147 or equivalent.

#### Health and Human Performance

- 149. JAZZ DANCE (2). Pr., departmental approval.
- 150. INTERMEDIATE SWIMMING (2), Pr., departmental approval.
- 151. SPECIAL RECREATIONAL TOPIC (2). Additional fee may be charged by cooperating agency.
- SWIMMING FOR FITNESS (2). Pr., PE 150 or equivalent. Physical conditioning through water exercises and swimming.
- SPRINGBOARD DIVING (2). Pr., departmental approval. Instruction in the basic dives; front, back, inward, reverse and twist.
- 154. RECREATIONAL SPORTS AND ACTIVITIES (2). Survey of selected recreational pursuits such as billiards, croquet, darts, gym bowling, hiking, horseshoes, net games and shuffleboard.
- 155. ANGLING (2). Skills in bait and fly casting. Selection and care of tackle.
- 156. ARCHERY (2).
- 157. BADMINTON (2).
- 158. BOWLING (2). Additional fee payable to cooperating agency.
- 159. GOLF (2), Additional fee payable to cooperating agency.
- 162. RIFLE MARKSMANSHIP (2). Pr., signed Army form 131.
- 163. TENNIS (2).
- CAMPING (2). Understanding of American heritage in relation to the out-of-doors, camping trends, conservation and the development of camping skills.
- 166. FAMILY RECREATION (2). Leisure time activities suitable for the family.
- 168. BASIC EQUITATION (2). Additional fee payable to cooperating agency.
- 170, FOLK DANCE (2).
- SOCIAL DANCE (2). Mixers, as well as ballroom dances: foxtrot, waltz, rhumba, tango and other representative Latin dances.
- 180. SOFTBALL (2).
- 181. VOLLEYBALL (2).
- 201. ADVANCED SURVIVAL AND MOUNTAINEERING (2). Pr., signed Army form 131, Pr., PE 139 or PE 104 or equivalent. Topics include emergency first aid, food procurement and preparation, advanced rappelling and climbing, shelters, water sources and field expedient techniques. Course requires a weekend field training exercise in the Talledega National Forest.
- LIFE GUARD TRAINING (2). Pr., ARC Standard First Aid or equivalent certifications. Development of skills leading to certification in American Red Cross Lifeguard Training.
- SKIN DIVING (2). Pr., departmental approval. Underwater swimming includes selection and use of swim fins, mask, snorkel. Underwater physiology and safety are emphasized.
- 234. JUDO II (2). Pr., PE 134 or equivalent.
- 235. WEIGHT TRAINING II (2). Pr., PE 135 or equivalent.
- 238. RACQUETBALL II (2). Pr., PE 138 or equivalent.
- 250. SYNCHRONIZED SWIMMING (2). Pr., departmental approval.
- 259. GOLF II (2). Pr., PE 159 or equivalent. Additional fee payable to cooperating agency.
- 263. TENNIS II (2). Pr., PE 163 or equivalent.

### VARSITY (PE)

- 325. VARSITY BASKETBALL (1).
- 326. VARSITY FOOTBALL (1),
- 332. VARSITY WRESTLING (1).
- 336. VARSITY TRACK (1).
- 337. VARSITY CROSS COUNTRY (1).
- 340. VARSITY GYMNASTICS (1).
- 350. VARSITY SWIMMING (1).
- 359. VARSITY GOLF (1).
- 362. VARSITY RIFLERY (1). Pr., signed Army form 131.
- 363. VARSITY TENNIS (1).
- 379. VARSITY SOFTBALL (1).
- 380. VARSITY BASEBALL (1).
- 381. VARSITY VOLLEYBALL (1).
- 383. VARSITY SOCCER (1).

### HEALTH AND HUMAN PERFORMANCE (HHP)

- 100. FUNDAMENTALS OF MOVEMENT (3). Framework for human movement that allows for effective delivery of motor skills instruction by the physical education teacher.
- 102. ORIENTATION FOR TRANSFER STUDENTS (1).
- SKILLS AND CONCEPTS OF INDIVIDUAL AND DUAL ACTIVITIES I (3). LAB. 6. Track and Field, archery, golf, wrestling and other individual and dual activities.
- SKILLS AND CONCEPTS OF INDIVIDUAL AND DUAL ACTIVITIES II (3). LAB. 6. Tennis, badminton, racquetball, squash and handball.
- 120. SKILLS AND CONCEPTS OF GYMNASTICS (3). LAB. 6. Tumbling, trampoline and apparatus.
- 121. SKILLS AND CONCEPTS OF AQUATICS (2). LAB. 4. Strokes, survival swimming techniques, competitive swimming, springboard diving and other aquatic activities.
- SKILLS AND CONCEPTS OF TEAM SPORTS I (3). LAB. 6. Basketball, volleyball and other indoor team sports.
- 123. SKILLS AND CONCEPTS OF DANGE (3). LAB. 6. Contemporary, folk, square, tap and ethnic dance.
- 124. SKILLS AND CONCEPTS OF TEAM SPORTS II (2). LAB. 4. Soccer, speedball, field hockey and related outdoor team sports.
- 195. HEALTH SCIENCE (2). Basic understanding of sound health practices and protection. Physical, mental and social aspects of personal and community health are considered.
- 200. THEORY AND CONDUCT OF PHYSICAL ACTIVITIES (5). LEC. 3, LAB. 4. Organizing and administering individual and dual sports, learn sports, gymnastics and dance at education and competitive levels.
- 201. FOUNDATIONS OF HEALTH AND HUMAN PERFORMANCE (5). Historical background of the fields of sports, physical education and health.
- BASKETBALL (3). LEC. 2, LAB. 2. Fundamental skill techniques of basketball offense, defense and strategy.
- BASEBALL (3). LEC. 2, LAB. 2. Offensive and defensive strategy, pitching, catching, infielding, outfielding, batting and baserunning.
- 204. TRACK AND FIELD (3). LEC. 2, LAB. 2, Fundamental skills and techniques of track and field athletics, The organizing and conducting of track meets.
- FOOTBALL (3). LEC. 2, LAB. 2. Fundamentals of football and the different types of offense, defensive term strategy and generalship.
- MOTOR DEVELOPMENT (3). LEC. 2, LAB. 2. Develops understandings and skills concerning the broad concept of motor development of children, ages 4-8.
- 213 DANCE FOR CHILDREN (3). LEC. 2, LAB. 2. Includes all forms of dance suitable for elementary school age children with emphasis on creative dance activities which afford a progression in dance skills.
- 228. SPORTS OFFICIATING (3) LEC. 2, LAB. 2. Basic officiating principles applicable to all sports with lab experiences and study of rules for selected sports.
- 295. SCHOOL HEALTH (3).
- 296. COMMUNITY HEALTH (3).
- 315. KINESIOLOGY (4), LEC. 3, LAB. 2. Pr., ZY 250.
- 335. EXERCISE AND SPORT PSYCHOLOGY (4). Pr., PG 211. Examination of the role of psychological factors, including motivation, anxiety and personality in sport and physical activity.
- AQUATICS INSTRUCTOR TRAINING (3). LEC. 1, LAB. 4. Pr., PE 230 or equivalent certification.
   Development of skills and teaching abilities leading to related American Red Cross aquatic instructor certifications.
- 386. LEADERSHIP IN HEALTH PROMOTION (3). Pr., HHP 201. Theories, techniques and leadership procedures applied to health promotion settings.
- CONSUMER HEALTH (3). Pr., HHP 195. Basic principles and concepts associated with the selection and use of health products, services and health information.
- 394. METHODS OF HEALTH INSTRUCTION (3). LEC. 2, LAB. 2.
- 396. DRUG USE AND ABUSE (3). Investigation of stimulants, depressants, alcohol, narcotics and to-bacco. The effects of these substances on the human body and the social, economic and community problems associated with their use.
- PROGRAMMING IN HEALTH PROMOTION (3). Pr., HHP 386. Program planning procedures, techniques and related administrative functions for health promotion agencies.
- 404. ATHLETIC INJURIES (3).
- PHYSIOLOGY OF EXERCISE (4). LEC. 3, LAB. 2. Pr., ZY 251. Principles of physiology with emphasis on the application of physiological findings to practical problems related to human physical activity.

- 410. HEALTH EDUCATION AND PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL (4), Pr., admission to teacher education. Basic knowledge and understanding of health education and physical education concepts and teaching strategies. Open only to elementary education majors only.
- 412 INSTRUCTIONAL STRATEGIES IN PHYSICAL EDUCATION (3), LEC. 2, LAB. 2, Pr., admission to teacher education for certification program.
- 413. TEACHING PHYSICAL EDUCATION IN ELEMENTARY SCHOOLS (4). LEC. 2, LAB. 4. Pr., admission to teacher education for certification program and HHP 412.
- 414. TEACHING PHYSICAL EDUCATION IN SECONDARY SCHOOLS (4). LEC. 2, LAB. 4. Pr., admission to teacher education for certification program and HHP 412.
- 416. ADAPTIVE PHYSICAL EDUCATION (3). LEC. 2, LAB. 2. Pr., ZY 250, RSE 376 or departmental approval. Review of anatomy, physiology and psychology pertaining to special programs of physical education for the temporarily and permanently handicapped, with lab practice in posture training and remedial gymnastics.
- 424. ORGANIZATION OF INTRAMURAL SPORTS PROGRAMS (3). LEC. 2, LAB. 2.
- 425. PROFESSIONAL INTERNSHIP (15). Pr., senior standing, professional screening, appropriate professional courses. Provides supervised, on-the-job experiences in a school, college or other appropriate setting. These experiences will be accompanied by regularly scheduled discussion periods to provide positive evaluation and analysis of the intern experience.
- 426. EVALUATION AND MEASUREMENT IN PHYSICAL EDUCATION (3). LEC. 2, LAB. 2, Pr., FED 400.
- MOTOR LEARNING AND PERFORMANCE (4). LEC. 3, LAB. 2. Pr., PG 211. Process of motor skill acquisitions; emphasis on variables that influence motor learning and performance.
- 446. DIRECTED INDEPENDENT STUDY (1-10). The student's learning efforts are guided toward desired objectives. Includes evaluation by professor and student of work accomplished at regular intervals.
- SPECIAL TOPICS (1-5), Seniors and professors pursue cooperatively selected concepts and theoretical formulations normally in small groups.
- 470. HONORS THESIS (3-6). Pr., admission to University Honors Program; junior or senior standing. May be repeated for a maximum of six hours. Open only to HHP students in the University Honors Program with the consent of the Honors Program Advisor.
- 471. HONORS READINGS AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program; jurior or senior standing. May be repeated for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor.
- 475. HEALTH PROMOTION IN THE WORKPLACE (3), Pr., HHP 195. Principles basic to the promotion of health within businesses and corporations. Includes development and evaluation of worksite programs such as stress management, smoking cessation, weight control, physical litness, etc.
- 490. HEALTH FITNESS INSTRUCTOR TRAINING (4). LEC. 2, LAB. 4. Pr., ZY 250, 251. Principles of anatomy, physiology and biomechanics to physical activity, fitness testing, exercise prescription and the development of exercise programs for individuals of different ages who vary in fitness and health status.
- 494. EMERGENCY CARE AND FIRST AID (3). LEC. 2, LAB. 2. Prevention of injuries and emergency care of illnesses and injuries. Includes cardiopulmonary resusitation (CPR).
- PRACTICUM (1-10). Provides experiences relating theory and practice, usually carried on simultaneously.

- 501. SPORT MANAGEMENT (5). Pr., HHP 201. Management of sports programs in a variety of agencies.
- 505. PRINCIPLES OF ADULT FITNESS (4). LEC. 2, LAB. 2. Pr., HHP 405 or departmental approval. Introduction to the basic principles of exercise testing, exercise prescription, and supervision of programs for adult populations.
- ADVANCED ATHLETIC TRAINING (5). LEC. 4, LAB. 2. Pr., HHP 404 or departmental approval. Prevention of injuries and advanced techniques of athletic training, including therapeutic modalities and injury rehabilitation.
- 517. PHYSICAL EDUCATION FOR THE MENTALLY RETARDED (3). LEC. 2, LAB. 2. Pr., HHP 211. The motor characteristics of the mentally retarded and the design of special programs of physical education; involves working with mentally retarded children.
- 520. SOCIOLOGY OF SPORT (5). Sport and culture. Attention is given to social processes and human behavior in sport situations.
- 570. STRENGTH POWER TRAINING: THEORY AND PRACTICE (5). Pr., HHP 315, 405. Theoretical and practical concepts related to strength training and the role of the strength coach.
- 594. EMERGENCY CARE INSTRUCTOR TRAINING (3). LEC. 2, LAB. 2, Pr., HHP 494 or equivalent certification. Advanced emergency care techniques and American Red Cross Instructor certification in basic life support courses.

### History (HY)

Professors Bond, Conniff, Fabel, Flynt, Harrell, Kicklighter, Lewis, McDonough and Owsley Associate Professors Hansen, Chair, Beckwith, Bohanan, Cronenberg, Gerber, Hall, McFarland, Melancon, Olliff, Szechi and Trimble

Assistant Professors Biggs, Carey, Crocker, Essah, Harrison and Jakeman

- 101. WORLD HISTORY I (3). A survey of world civilization from prehistory to 1400.
- 102. WORLD HISTORY II (3). A survey of world civilization from 1400-1815.
- 103. WORLD HISTORY III (3). A survey of world history from 1815 to the present.
- TECHNOLOGY AND CIVILIZATION I (3). The interaction of technology and of human culture from prehistoric times to the industrial revolution.
- 122. TECHNOLOGY AND CIVILIZATION II (3). The interaction of technology and of human culture from the industrial revolution to the end of the 19th century.
- TECHNOLOGY AND CIVILIZATION III (3). The interaction of technology and other aspects of human culture in the 20th century.
- HONORS PROGRAM I. ANCIENT AND MEDIEVAL HISTORY (3). Pr., admission to Honors Program.
- 172. HONORS PROGRAM II. EARLY MODERN HISTORY (3). Pr., admission to Honors Program.
- 173. HONORS PROGRAM III. MODERN HISTORY (3). Pr., admission to Honors Program.
- 191. HONORS TECHNOLOGY AND CIVILIZATION I (3). Pr., admission to Honors Program. Interaction of technology and human culture from historic times to the industrial revolution for selected honors students from scientific and engineering disciplines.
- 192. HONORS TECHNOLOGY AND CIVILIZATION II (3). Pr., admission to Honors Program. Interaction of technology and human culture from industrial revolution to the end of the 19th century for selected honors students from scientific and engineering disciplines.
- 193. HONORS TECHNOLOGY AND CIVILIZATION III (3). Pr., admission to Honors Program. Interaction of technology and culture in 20th century for selected honors students from scientific and engineering disciplines.
- 201 HISTORY OF THE UNITED STATES TO 1865 (5).
- 202. HISTORY OF THE UNITED STATES SINCE 1865 (5).
- 207. EUROPEAN HISTORY, 1500-1815 (5). Early modern Europe through the French Revolution.
- 208. EUROPEAN HISTORY SINCE 1815 (5). A survey of Europe since the French Revolution.
- CONTEMPORARY CENTRAL AMERICAN HISTORY (3). Pr., sophomore standing. An analysis of the nature and origins of problems facing contemporary Central America.
- INTRODUCTION TO FAR EASTERN HISTORY (5). Pr., sophomore standing. The major cultural and institutional developments of the area.
- 306. CONTEMPORARY HISTORY (3). Recent events and their effect on the modern world.
- 307. HISTORY OF U.S. AIR POWER (3). Traces evolution of U.S. military aviation policy.
- 308. NAVAL HISTORY OF THE UNITED STATES (3). The United States Navy from the American Revolution to the pesent including the evolution of naval technology and strategy and the role of the navy in detense, discovery and diplomacy.
- MILITARY HISTORY OF THE UNITED STATES (3). History of the United States military policy, strategy and tactics, 1775 to the present (land warfare).
- GRECO-ROMAN HISTORY (5). Pr., sophomore standing. The Classical or Hellenic Civilization from the Homeric Age to the reign of the Emperor Justinian.
- 311. MEDIEVAL HISTORY (5). Pr., sophomore standing. Europe from the fall of the Roman Empire to the Age of Discovery.
- HISTORY OF AFRO-AMERICANS IN U.S. TO 1865 (3). Pr., sophomore standing. Survey of black history in America.
- 316. HISTORY OF AFRO-AMERICANS SINCE 1865 (3). Pr., sophomore standing.
- 317. AMERICAN FOLK/ORAL HISTORY (3). Cultural survey of the "common people," utilizing oral history.
- 318. UNITED STATES SOCIAL HISTORY (5). Pr., sophomore standing. A survey of the history of American society, focusing on such issues as family life, the nature of work and the impact of immigration.
- UNITED STATES INTELLECTUAL HISTORY (5). Pr., sophomore standing. A survey of the history of American thought.
- U.S. LEGAL AND CONSTITUTIONAL HISTORY (3). Describes changes in U.S. Constitution and legal system.
- 325. THE HISTORY OF WOMEN IN THE UNITED STATES TO 1870 (3). American women, Indian, Black and White from colonial settlement through the Civil War.

- 326. THE HISTORY OF WOMEN IN THE UNITED STATES SINCE 1870 (3). Political and economic roles of women from 1870 to the present.
- 330. HISTORY OF IRELAND (3). Pr., sophomore standing. Survey of Irish history.
- 337. GERMAN HISTORY (5). Survey of German history since the Reformation.
- HISTORY OF POLITICAL PARTIES (5). Pr., sophomore standing. Origin and growth of American
  political parties from the Federalist era to the present.
- 354. HISTORY OF THE MIDDLE EAST (3). Surveys history and culture of region.
- HISTORY OF THE IBERIAN PENINSULA (5). Spanish and Portuguese history, prehistoric to contemporary.
- 356. MODERN FRANCE (5). From the Ancien Regime to the present.
- 359. WORLD WAR II (3). Discusses origins and military campaigns of W.W. II.
- 374. TECHNOLOGY AND SOCIETY IN AMERICA I (3). Pr., sophomore standing. The interrelationship between technology and society in the 19th century.
- TECHNOLOGY AND SOCIETY IN AMERICA II (3). Pr., sophomore standing. The interrelationship between technology and society.
- 378. HISTORY OF SPACE TRAVEL (3). Pr., sophomore standing. Study of space exploration.
- SCIENTIFIC REVOLUTIONS (3). Pr., junior standing. Scientific revolutions since the Renaissance studied in their social and intellectual context.
- SCIENCE FICTION AS INTELLECTUAL HISTORY (5). Pr., junior standing. The interaction among science, technology and other aspects of human culture as dramatized in classic works of science fiction.
- HISTORY OF ALABAMA (5). Pr., sophomore standing. A brief history of Alabama from the beginning to the present.
- SPECIAL TOPICS IN HISTORY (3). Pr., junior standing. Topics vary. May be taken twice on different topics.
- 399. HISTORY INTERNSHIP (5). Pr., junior standing. Inservice program with a professional agency.
- HISTORICAL RESEARCH AND WRITING I (3). Pr., junior history majors. An introduction to the historical research methods.
- 406. HISTORICAL RESEARCH AND WRITING II (3), Pr., HY 405. Writing a research paper.
- HONORS READING COURSE (3-5). Pr., admission to University Honors Program. Readings in special topics.
- HONORS RESEARCH AND THESIS (1-3). Pr., admission to University Honors Program. Research in specialized topics.

- AMERICAN COLONIAL HISTORY (5). The political, economic, and social history of the colonies from their founding to the end of the French and Indian War, 1763.
- 501. THE AMERICAN REVOLUTION AND THE CONFEDERATION, 1763-1789 (5). The new British Colonial policy, the War for independence, and the first federal constitution and movement to replace it.
- 502. FEDERALIST AND JEFFERSONIAN AMERICA, 1789-1815 (5). The establishment of the new lederal government, the origins of American political parties, and the role of the United States in the French Revolutionary and Napoleonic Wars.
- THE AMERICAN SYSTEM AND JACKSONIAN DEMOCRACY, 1815-1850 (5). Nationalism, sectionalism, egalitarianism, and expansion.
- 504. THE CIVIL WAR (5). The sectional controversy from the Compromise of 1850 to the beginning of hostilities in 1861, and the military, economic, social, and political aspects of the war.
- UNITED STATES HISTORY, 1865-1900 (5). United States history from the end of the Civil War to the beginning of the Progressive era.
- 507. UNITED STATES HISTORY, 1900-1945 (5). United States history from the beginning of the Progressive era to the end of World War II.
- UNITED STATES HISTORY, 1945-PRESENT (5). United States history from the end of World War II
  to the present.
- 509. 19TH-CENTURY U.S. DIPLOMACY (5). U.S. relations with foreign powers to 1919.
- 510. 20TH-CENTURY U.S. DIPLOMACY (5). Emergence of America as a world power since 1919.
- 513. THE SOUTH TO 1865 (5). The origins and growth of distinctive social, economic, cultural and ideological patterns in the South with emphasis on period 1815-1860.
- 514. THE SOUTH SINCE 1865 (5). Major trends in the South since the Civil War with emphasis on social. economic, cultural and ideological development.

- 516. SOCIAL AND INTELLECTUAL HISTORY OF MODERN EUROPE (5). Selected topics in social and intellectual history which have shaped modern European cultures.
- 526. RENAISSANCE AND REFORMATION, 1348-1559 (5). Europe during the Italian Renaissance, the Protestant and Catholic Reformations and the Age of Discovery.
- 527. EARLY MODERN EUROPE, 1559-1715 (5). Europe during the age of religious war, state-building, scientific discovery, social change and conflict.
- 528. THE ENLIGHTENMENT, 1660-1789 (5). Analysis of the European social and intellectual movement from its origins in the mid-17th century through its impact on the French Revolution.
- 529. REVOLUTIONARY EUROPE, 1789-1850 (5). Analysis of the French Revolution and Napoleonic Empire and an examination of the political, social and intellectual impact of revolution in Europe in the first half of the 19th century.
- 531. IMPERIAL EUROPE. 1850-1905 (5). Examination and analysis of the political, social, intellectual, economic and diplomatic history of Europe from the aftermath of the 1848/49 revolutions to the eve of the First World War.
- EUROPE IN CRISIS, 1905-1950 (5). Europe in the age of world wars, the Great Depression, and totalitarianism.
- 533. CONTEMPORARY EUROPE, 1950-PRESENT (5). History of post-war Europe emphasizing economic and political integration, the Cold War, the Soviet collapse and cultural development.
- 550. EASTERN ASIA (5). A history of China and Japan in the modern world.
- 551. BRAZIL, 1800-PRESENT (5). National period
- 552, CENTRAL AMERICA AND THE CARIBBEAN (5). An analysis of cultural developments in Central America and the Caribbean areas in the 19th and 20th centuries.
- 553. SOUTH AMERICA TO 1800 (5). The colonial and early national period.
- 554. HISTORY OF MEXICO (5), An analysis of the unique cultural development of Mexico.
- 555. SPANISH SOUTH AMERICA, 1800-PRESENT (5). An analysis of cultural developments in South America in the 19th and 20th centuries.
- 556. HISTORY OF RUSSIA, 800-1861 (5). Describes the birth and development of Russian culture, society and politics up to the emancipation of the serfs.
- 557. HISTORY OF RUSSIA/USSR SINCE 1861 (5). Examines Russia/Soviet Union through reform, revolution, and development of a new society to the present day.
- 571. MEDIEVAL ENGLAND (5). Britain from earliest times to the Reformation.
- 572. THE MAKING OF GREAT BRITAIN (5). Britain from Reformation to American Revolution, 1485-1783.
- 573. MODERN BRITAIN (5). Britain from American Revolution to present, 1783-1990.
- 579. THE INDUSTRIAL REVOLUTION (5), Pr., junior standing; HY 201 and 202 or 207 and 208. The late 18th century to the end of the 19th century in England, Europe and the U.S. Focus will be on technological developments, the factory system and their social and cultural consequences.
- 580. THE HISTORY OF FLIGHT (5). Stages in the development of human flight, including both aeronautics and space exploration, with interpretative analysis.
- 581, AMERICAN URBAN HISTORY (5), Pr., HY 201, 202. Examination of American cities from colonial times to the present.
- 590. HISTORY OF THE INDIANS OF NORTH AMERICA (5). Drawing on ethnological, anthropological and archaeological sources with particular attention to post-contract period and to the Cherokee, Choctaw and Creek tribes of the Southeastern U.S.

### Horticulture (HF)

Professors Dozier, Acting Head, Chambliss, Gilliam, Goff, Himelrick, Keever, Norton, Ponder, Powell and Ward

Associate Professors Behe, Brown, Eakes and Tilt Assistant Professors Dangler, Kemble, Woods and Williams Adjunct Instructors C. Brown and Sistrunk

- 101. INTRODUCTION TO HORTICULTURE (3). LEC. 2, LEC.-DEM. 2. Fall. Practical and scientific principles of horticulture. Primarily for new students majoring in horticulture and non-majors who want a general knowledge of the subject. General techniques of ornamental, fruit and vegetable gardening, and career opportunities in horticulture will be discussed.
- 201. ORCHARD MANAGEMENT (5). LEC. 3, LAB. 4. Fall and Spring. Propagating, planting, pruning, cultivating, fertilizing, spraying, thinning, harvesting, grading, storing and marketing the most valuable fruits grown in the South.

- FRUIT AND VEGETABLE PRODUCTION (5). LEC. 3, LAB. 4. Fall. Adaptation of and cultural practices for fruit and vegetable crops for production in Alabama. Degree credit may not be earned in HF 202 and 201 or 208.
- SCIENTIFIC APPROACHES TO ORGANIC GARDENING (3). LEC. 2. Principles, production practices, maintenance, harvesting and marketing of organically and traditionally home-grown vegetables.
- 221. LANDSCAPE GARDENING (5). LEC. 3, DEM. 4. Pr., BI 102. Principles of landscape gardening applied to the development of small home grounds and school grounds. The lecture-demonstration periods are devoted to the identification and use of ornamental plants, landscape drawings, and the propagation and maintenance of ornamental plants.
- ARBORICULTURE (5). LEC. 3, LAB. 4. Pr., HF 221 or equivalent. Identification, culture and use of ornamental trees in landscape plantings.
- EVERGREEN SHRUBS AND VINES (5). LEC. 3, LAB. 4. Pr., HF 221 or equivalent. Identification, culture and use of broadleaf and narrowleaf evergreens in landscape plantings.
- PLANT PROPAGATION (5). LEC: 3, LAB. 4. Pr., Bl 102. Basic principles and practices involved in the propagation of horticulture plants.
- FLOWER ARRANGING (3). LEC. 2, LAB. 2. General elective. Principles and practices of flower arranging for the home. Fee of \$50 for supplies.
- LANDSCAPE GRAPHICS (3). LEC, 2, LAB, 3. The development of drawing and drafting skills used to
  evolve and communicate schematic and detail landscape design concepts.
- SMALL TREES, SHRUBS AND VINES (5). LEC. 3, LAB. 4. Pr., HF 221 or equivalent. Identification, culture and use of small trees, shrubs and vines in the landscape.
- 323. GREENHOUSE ENVIRONMENT CONTROL (5). LEC. 4, LAB. 3. Pr., BI 102, HF 224. Principles and practices of construction and utilizing greenhouses for various purposes such as plant propagation, crop production and research.
- 324. ELEMENTS AND PRINCIPLES OF LANDSCAPE DESIGN (5). LEC. 3, LAB. 4. Pr., HF 221 and at least five hours from the plant materials courses to be taken previously or concurrently, or departmental approval. The art elements and design principles as they relate to landscape design. The organization of outdoor spaces leading to the evolution of landscape designs emphasized.
- 328. LANDSCAPE CONSTRUCTION (5). LEC. 2, LAB. 6. Pr., HF 226, 324 or departmental approval. Investigation of the principles and practices used in the detail design and implementation of a land-scape site plan or landscape planting plan. Topics to be covered: drafting, surveying, properties of construction materials, earthwork, drainage and specifications.
- 330. HORTICULTURE INTERNSHIP (5). May be taken more than once for a total of 15 hours. Pr., departmental approval, S-U, graded. Practical on the job training under supervision in selected commercial establishments to include wholesale and retail nurseries, greenhouses, garden centers, landscape and landscape maintenance firms and fruit and vegetable horticultural production units. Each term of employment is one quarter.
- 340. INDUSTRIAL FOOD PRESERVATION TECHNOLOGY (5). LEC. 3, LAB. 4. Pr., departmental approval or junior standing. Fall, odd years. Principles of food preservation as applied to industry. Processes considered include refrigeration, pasteurization, canning, freezing, drying concentration, fermentation, pickling, salting, irradiation and the use of food additives.
- UNDERGRADUATE SEMINAR (1), LEC. 1. Pr., junior standing. S-U graded. Develops an understanding of current developments and career opportunities in horticulture.
- 410. HERBACEOUS ORNAMENTAL PLANTS (5). LEC. 3, LAB. 4. Spring. Pr., HF 221 or departmental approval. Identification, culture, and use of herbaceous annuals and perennials, bulbs, herbs, and ornamental grasses. Consideration of flower bed and border preparation, care and maintenance.
- 412. INTERIOR PLANTSCAPING (3). LEC. 2, LEC. -DEM. 2. Fall. Pr., HF 221 or departmental approval. An introduction to the selection, installation, and care of fropical foliage plants in public interior settings. Topics will include: natural and artificial light, plant acclimatization, growing media, fertilizers, containers and pest control. About 50 plants common in interior plantings will be identified and their uses and limitations discussed.
- 415. RETAIL GARDEN CENTER MANAGEMENT (5). LEC. 4, LAB. 2. Pr., HF 222, 223, and 321 or departmental approval. The following objectives will be covered: financing, selecting a location, designing a center, stocking, selling, personnel management, advertising and maintaining plants on the lot.
- 425. FLOWER SHOP MANAGEMENT (5). LEC. 4, LAB, 3. Pr., HF 225, 522, MN 241, ACF 211, departmental approval. Winter, odd years. Principles and practices in the establishment and management of a retail flower shop. Store location, financing, buying, floral design, pricing and merchandise control.
- 426. MINOR PROBLEMS (3-5). May be taken more than once for a total of 15 hours. Pr., departmental approval. Selected problems in either vegetable production, pomology, food technology, or landscape and ornamental horticulture, on which independent library, field, laboratory, or greenhouse investigations are made, under supervision of instructors.

- INTERMEDIATE LANDSCAPE DESIGN (5). LEC. 2, LAB. 6. Pr., HF 324 or departmental approval.
   Human, nature, art and technology and their influence on landscape design.
- ADVANCED LANDSCAPE DESIGN (5). LEC. 2, LAB. 6. Pr., HF 328, 427, and at least 10 hours from the plant materials courses to be taken previously or concurrently, or departmental approval. Continuation of HF 427.
- FOOD SCIENCE SEMINAR (1). Pr., senior standing. Winter. Lectures, discussions and literature reviews by staff, students and guest lecturers.

- COMMERCIAL VEGETABLE CROPS (5). LEC. 3, LAB. 4. Pr., HF 308. Fall. even years. Advanced course in production, storing, packaging and marketing of the major commercial vegetable crops.
- 504. FRUIT GROWING (5). LEC. 3, LAB, 4. Pr., BI 102, HF 201, CH 207. Summer, odd years. Production and marketing of commercial tree fruits grown in the South.
- SMALL FRUITS (5). LEC. 3, LAB. 4. Pr., BI 102. Spring, even years. Principles and practices involved in the production of strawberries, grapes, blueberries, and brambles.
- 506. PECAN CULTURE (5). LEC. 3, LAB. 4. Pr., BI 102, CH 207, HF 201. Spring, odd years. Production and marketing of pecans, walnuts and chestnuts.
- LANDSCAPE BIDDING, ESTABLISHMENT AND MAINTENANCE (5). LEC 3, LAB 4. Pr., BY 306, PLP 309. Winter. Principles and practices of the care and maintenance of trees and shrubs, including pruning, tree surgery, transplanting, and fertilization.
- 522 FLORICULTURAL CROP PRODUCTION (5). LEC. 4, LAB. 3. Pr., AY 304, BY 306, PLP 309. HF 323. ENT 502 or departmental approval. Spring, even years. Floricultural crop production under management in greenhouse and outdoor conditions.
- 523. NURSERY MANAGEMENT (5). LEC. 3, LAB. 4, Pr., HF 224, BY 306, AY 304. Winter. Principles and practices of the management of a commercial ornamental nursery.
- 531. ADVANCED LANDSCAPE GARDENING (4). LEC. 3, LAB. 4. Pr., BI 101, HF 221, graduate standing. Principles and practices applying to the use of omamental plant material in landscaping.
- 532. CONTROLLED PLANT GROWTH (5). LEC. 3, LAB. 4. Pr., AY 304, BY 306, CH 208, HF 323, junior standing. Controlling and directing growth of plants by manipulation of the environment and by the use of chemicals.
- 535. ADVANCED CARE AND MAINTENANCE OF ORNAMENTAL PLANTS (5). Pr., HF 521. Includes visits to nurseries, landscape con struction firms, landscape maintenance firms and to installation and maintenance sites. On site participation in all phases of landscape installation and maintenance including extensive experiences in problem diagnosis.
- 543. FOOD CHEMISTRY (5), LEC. 3, LAB. 4. Pr., CH 207 or 203. Winter. Chemistry of the important components of foods and changes occurring during processing, storage, and handling.
- 545. FOOD ANALYSIS AND QUALITY CONTROL (5). LEC. 3, LAB. 4. Pr., HF 543. Spring, even years. Sensory, chemical, and instrumental food analysis and its application to quality control and evaluation of grades and standards.
- 593. PRACTICUM (1-5). May be repeated not to exceed 10 hours credit. Not open to majors in Horticulture. Provides experience in horticulture closely relating theory and practice, usually carried on simultaneously.

### Industrial Design (IND)

Professor Lundell, Head Associate Professors Lau and Smith

Assistant Professors Bartlett, Britnell, Prange and Peters

- DRAWING SYSTEMS (5), Pr., acceptance into IND curriculum. Visual exploration, analysis and communication of mechanical design principles.
- munication of mechanical design principles.

  111. PERSPECTIVE DRAWING (5), Pr., IND 110. Introduction to drawing systems utilized in product de-
- sign and fabrication.

  112. DRAWING FOR DESIGN AND PROD. (5). Pr., IND 111. Advanced product design communication.
- with emphasis on the production processes.

  200. RESEARCH PROTOTYPE FABRICATION (1-2). Pr., PIND standing. Instruction in the fabrication of three-dimensional prototype models utilizing various materials.
- 210. PRINCIPLES OF INDUSTRIAL DESIGN I (5). LEC. 2, STUDIO 6. Visual communication. Perception theory, design fundamentals; color, figure organization, movement and balance, proportion and rhythm.
- 211. PRINCIPLES OF INDUSTRIAL DESIGN II (5). LEC. 2, STUDIO 6, Pr., IND 210 and departmental approval. An extension of principles encountered in Industrial Design 210. Analysis of industrial design fundamentals.

- PRINCIPLES OF INDUSTRIAL DESIGN III (5). LEC. 2, STUDIO 6, Pr., IND 211 and departmental
  approval. Structural and functional relationship of design elements; convenience, utility, safety, maintenance.
- 221. MATERIALS & TECHNOLOGY (5). Pr., sophomore standing. The properties and use of various materials in manufacture and a study of the machine and tool processes used by industry. Survey from the designer's viewpoint.
- INDUSTRIAL DESIGN METHODS (5). Pr., sophomore standing. Methods and organizational procedures used in the analysis and solutions of design problems. Survey of philosophies and theories of design.
- ANTHROPOMETRY (5). Pr., IND 212, 222. Survey and introduction to the field of body measurements and movements in relation to design.
- DESIGN WORKSHOP (5). LEC. 2, LAB, 8, Pr., IND 210, 212. Modelmaking and creative modeling. Study models, presentation models, mock-ups, prototypes.
- CONCEPT DEVELOPMENT (6). LEC. 2, STUDIO 8. Pr., IND 212, 221, 222. Concept development using drawing and rendering skills for idea communication and presentation.
- PACKAGING (6). LEC. 2, STUDIO 8. Pr., IND 221, 222, 310. Packaging, trademark and corporate identify programs. Exhibition and display fixtures.
- PRODUCT DESIGN (6). LEC. 2. STUDIO 8. Pr., IND 311. Product design utilizing principles of design methodology from idea stages through working models.
- 385. SEMINAR IN IND (5). Pr., IND 212, junior standing. Topics in industrial design. Computer software
- SYSTEMS (6), LEC. 2, STUDIO 8. Pr., IND 312, 307, 308. Design or redesign of products and systems.
- ADVANCED PRODUCTION (6). LEC. 2, STUDIO 8. Pr., IND 410. Design or redesign of products and systems of advanced complexity.
- 412. INDUSTRIAL DESIGN THESIS (6). LEC. 2, STUDIO 8. Pr., IND 411. Project involving all design phases; project of the student's own selection and approved by the instructor. Presentation of graphics, models and written explanations, and oral presentation before a Design Jury. Thesis material may be retained by the department. A portfolio submission is required for course completion.
- 415. HISTORY OF INDUSTRIAL DESIGN I (5). Pr., IND 312. Design from the development of the first human artifacts to the Industrial Revolution and beyond with emphasis on the relation between design and science, art, technology and the humanities.
- PROFESSIONAL PRACTICE (5). Pr., 4th year standing. Office organizations, contracts, reports, professional ethics, time planning, product litigation, cost estimating, patent policy and related research areas.

- SEMINAR IN IND (5). Pr., 4th year standing, Development of individual portfolio. Research, design, reports, on approved topics. May be repeated for a maximum of 10 hours.
- 516. HISTORY OF INDUSTRIAL DESIGN II (5). Design from the beginning of artifacts to the first Industrial Revolution, with emphasis on the relationship between design and sciences, an, technology, and the humanities.
- 585. SPECIAL PROBLEMS (2-6). Development of individual projects. Research, design and reports on approved topics.
- 586. CASE STUDIES IN DESIGN (5). Design projects undertaken by industry will be studied by examination of artifacts and records, by interviews with professionals responsible for the phases of the projects, and by class discussions of this data and its implication. Focus on the socio-cultural relevancy of the artifacts.

### Industrial Engineering (IE)

Professors Unger, Head, Bulfin, Black, Hool, Maghsoodloo, Park and Smith Associate Professor Thomas Assistant Professors Meller, Nembhard, Sox and Vance Adjunct Instructor Kriel

General Curriculum, CLA, students (those with undeclared majors) may enroll only with departmental consent.

- 172. GRAPHICAL COMMUNICATION & DESIGN (3). LEC. 2, LAB. 3. Graphical concepts and projective geometry relating to spatial visualization and communication in design, including technical sketching, instrument drawing and computer-aided drafting and design.
- COMPUTER PROGRAMMING (3). LEC. 2, LAB. 3. Coreq., MH 264. Introductory computer programming using the FORTRAN programming language with emphasis on mathematical and engineering problems. Not open to students with credit in CSE 120 or 204.

- 260. ENGINEERING COMPUTATION (3). LEC. 2, LAB. 3. Pr., IE 250. An intermediate computer course dealing with the use of MS DOS based microcomputers. Application topics include an in-depth study of MS (or PC) DOS, the how-to-of-various microcomputer packages used in later IE courses, brief introductions to word processing and spreadsheets, use of files, and a comparison of FORTRAN to MS BASIC.
- 301. METHODS ENGINEERING AND WORK MEASUREMENT (3). Pr., IE 332. Classical industrial engineering procedures related to the design of efficient work methods. Analysis of the work measurement process and design of labor content assessment systems.
- TOTAL QUALITY ENGINEERING (3). Pr., junior standing, MH 162 or MN 301 or equivalent statistics course. Introduction to concepts and methods of quality engineering. Emphasizes TQM, ISO 9000, QFD and statistical tools of quality. Open to all students except those in IE.
- 331. PROBABILITY FOR ENGINEERS (3). Coreq., MH 264. Basic probability, random variables and distribution functions.
- ENGINEERING STATISTICS I (3). Pr., IE 331. Statistical inference, sampling distributions and their applications. Emphasis is on statistical inference.
- 333. ENGINEERING STATISTICS II (3). Pr., IE 332. One and two-way analysis of variance. General lactorial experiments, confounding in blocks, fractional factorials, regression and correlation. Emphasis is on factorial experiments.
- 341. OPERATIONS RESEARCH I: MODELS (3). LEC. 2, LAB. 3, Pr., CSE 120, IE 331, MH 264. Formulation, interpretation and implementation of mathematical models in operations research, including linear, non-linear, dynamic and integer programming, networks, decision trees and queues.
- 343. OPERATIONS RESEARCH II: CONCEPTS AND METHODS (3). Pr., IE341, MH 266. An introduction to the underlying concepts of operations research methodology. Emphasis will be on optimization techniques, stressing optimality conditions and how they are used to develop algorithms. Major emphasis will be on algorithms for linear programming.
- 360. ENGINEERING ECONOMIC ANALYSIS (3). Pr., MH 264, CSE 120. The development of principles required in engineering economy studies and other decision-making oriented courses. Topics include interest and interest formula derivations, economic decision criteria, capital budgeting, depreciation methods, tax considerations, replacement analysis and inflation.
- MANUFACTURING ENGINEERING I: MATERIALS AND PROCESSES (4). LEC. 3, LAB. 3. Pr., MTL 220, EGR 207. Engineering science and design of manufacturing materials, processes, and systems.
- SEMINAR IN INDUSTRIAL ENGINEERING (1). LEC. 1, Pr., junior standing in IE. Discussion of current problems, professional practice, and professional opportunities. (Restricted to Industrial Engineering majors and is to be taken in the third or fourth quarter prior to graduation.)
- 401. OCCUPATIONAL ERGONOMICS AND SAFETY (5). Pr., senior standing. Basic principles of occupational ergonomics and safety engineering in the analysis, evaluation and design of industrial work areas and processes which include human operators.
- PRODUCTION CONTROL FUNCTIONS I (3). LEC. 2, LAB. 3. Pr., IE 333, 341, 360. Functions of production control, including forecasting systems, inventory control systems and aggregate production planning.
- 425. PRODUCTION CONTROL FUNCTIONS II (3). Pr., IE 422, Functions of production control, including models for production planning, scheduling and control, line balancing, manufacturing resource planning and project management systems.
- 433. STATISTICAL QUALITY CONTROL (3). Pr., IE 332. Control charts for variables and for attributes. Methods for quality improvement. Acceptance sampling by attributes and by variables. Emphasis on statistical process control.
- 456. SIMULATION (3). LEC. 2, LAB. 3. Pr., CSE 120, IE 333. Simulation procedures for solving complex systems analysis problems. Emphasis on random processes, model building, and construction of computer simulation models.
- 470. INFORMATION-DECISION SYSTEMS (3). LEC. 2, LAB. 3, Pr., CSE 120. Coreq., IE 422. Interrelated components of complex management information-decision systems. Design considerations for systems involving computers as a principal data processing device.
- 480. MANUFACTURING ENGINEERING III: TOOL DESIGN (3). LEC. 2, LAB. 3. Pr., IE 380 or equivalent. The design of workholding devices (jigs and fixtures and hands of robots) and blanking and piercing dies, including the fundamentals of tolerances, locating, and clamping principles.
- 482. MANUFACTURING SYSTEMS DESIGN (3). Pr., IE 425. Design, analysis and control of manufacturing systems and advanced manufacturing technologies, including JIT, GT, TQM, CIM and manufacturing cells.
- 484. PROBLEMS IN MACHINING (5). LEC. 3, LAB. 4. Pr., IE 380. Advanced phases of metal machining with emphasis on production machines and accessories.

- 490-491-492. INDUSTRIAL ENGINEERING PROBLEMS (1-5). Pr., department head approval. Individual student endeavor under staff supervision involving special problems of an undergraduate nature in Industrial Engineering. Interested student must submit written proposal to department head.
- 493-494-495. INDUSTRIAL ENGINEERING SPECIAL TOPICS (1-5). Pr., departmental approval. Special topics courses of an undergraduate nature pertinent to Industrial Engineering. Specific prerequisites will be determined and announced for each offering.
- 497. SENIOR DESIGN PROJECT I (2), LEC; 1, LAB, 2, Pr., IE 301, Coreq., IE 401, 425, 433. A capstone course in which undergradute coursework principles are brought to bear upon a design problem in a cooperating industry or institution. (Should be taken the quarter immediately prior to the taking of IE 498.)
- 498. SENIOR DESIGN PROJECT II (2). LAB. 6, Pr., IE 497. Continuation of the design problem begun in IE 497. Completion of the project and written and oral presentation of the results to the cooperating organization. (Should be taken during student's final quarter.)
- 499. HONORS THESIS (1-6). Pr., department head approval. Individual student endeavor consisting of directed research and writing of honors thesis. (IE Honors Program students only. May be repeated once for a maximum of six total credit hours.)

### COURSES NOT OPEN TO IE MAJORS

- BASIC MANUFACTURING PROCESSES (3). Materials and processes used in manufacturing, with emphasis on modern technology (CAD/CAM, Robotics, etc.) and manufacturing/production systems.
- 430. ENGINEERING STATISTICS (5). Pr., MH 264. Basic probability, random variables, discrete and continuous distributions, sampling distributions, hypothesis testing, estimation, regression and correlation, analysis of variance, testing goodness of fit. (Not open to students with credit in IE 331.)
- 440. OPERATIONS RESEARCH (3). Pr., MH 266, IE 430 or equivalent or concurrently. Model construction, linear programming, network models, dynamic models, stochastic models, queueing theory, decision theory and simulation. (Not open to students with credit in IE 343).

### ADVANCED UNDERGRADUATE AND GRADUATE COURSES

- 501. SAFETY ENGINEERING (3). Pr., IE 401. Occupational safety engineering with emphasis on control of hazardous materials, fire prevention and safety considerations in production facility design and maintenance.
- 502. SYSTEMS ANALYSIS FOR SAFETY (3). Pr., IE 501, 331 or 430, or equivalent. Systems Safety Engineering analysis techniques including fault-tree, reliability and cost benefit analysis.
- RESEARCH METHODS IN OCCUPATIONAL SAFETY AND HEALTH (3). Pr., IE 401 or equivalent. Contemporary and developmental ergonomics and safety research methods in laboratory and occupational settings.
- 525. INVENTORY CONTROL (3). Pr., IE 343, 422, 433. Application of quantitative methods to the control of industrial inventories.
- 526. INDUSTRIAL MAINTENANCE ENGINEERING (3). Pr., IE 422, 470. Industrial maintenance and organization including planning and scheduling, motivation, inspection, preventive maintenance, replacement, data processing and relation to other areas.
- 529. OPERATIONAL CONTROL SYSTEM DESIGN (3). Pr., IE 425. The design of operational planning and control systems. Integration of individual systems functions. Concept of total systems optimization.
- OFF-LINE QUALITY CONTROL (3). Pr., IE 333. Taguchi's quality loss function, three stages of quality design and analysis of Taguchi's signal-to-noise ratio.
- 534. QUALITY SYSTEMS DESIGN AND IMPLEMENTATION (3). Pr., IE 533 or departmental approval. On-line and off-line quality engineering methods and their use in integrated total quality control systems.
- 536. SAMPLING AND SURVEY TECHNIQUES (3). Pr., IE 333. Theory and application of statistical sampling and survey methods, with emphasis on methods optimization.
- RELIABILITY ENGINEERING (3). Pr., IE 333. Reliability, maintenance, and replacement, with emphasis on quantitatively descriptive methods to be used for problem solving.
- 541. DETERMINISTIC OPERATIONS RESEARCH (3). Pr., IE 343. In-depth treatment of deterministic operations research, particularly the concepts and methodology of non-linear, dynamic, integer and network optimization.
- DYNAMIC PROGRAMMING (3). Pr., IE 541. Theory and methods of dynamic programming will be presented. Specific applications will be discussed.
- 545. PROJECT MANAGEMENT (3). Pr., IE 440 or 343. Project management and development with emphasis on operations research methods and cost analysis. Applications of CPM, PERT, and GERT to project management.

- 547. SEARCH METHODS FOR OPTIMIZATION (3), Pr., MH 264 and senior standing. Single and multi-variate search techniques and strategies which are used in finding the optimum of discrete or continuous functions about which full knowledge is not available.
- 549. SENSITIVITY ANALYSIS IN OPERATIONS RESEARCH MODELING (3). Pr., IE 343, 422 and 456 or equivalent. An investigation of how an operations research model's decisions and returns change with respect to changes in model parameters and characteristics. Several types of models are considered and examples are presented.
- 551. STOCHASTIC OPERATIONS RESEARCH (3). Pr., IE 332, 343. Stochastic operations research models with emphasis on model formation, solution and interpretation of results. Emphasis on stochastic processes, queueing theory and their applications.
- 560. INTERMEDIATE ENGINEERING ECONOMIC ANALYSIS (3). LEC. 3. Pr., IE 360. Continuation of IE 360. Emphasis on cost estimating techniques and applications of engineering economic principles to various aspects of industrial engineering problems.
- 566. PERFORMANCE TECHNOLOGY (3) Pr., IE 470 and 343 or equivalent. Development of practical methods to measure performance in all types of organizations. Application of utility theory, hierarchical analyses, mathematical programming and measurement systems.
- 572. PRINCIPLES OF INTERACTIVE COMPUTER GRAPHICS (3). Pr., MH 266, CSE 120 or equivalent, and junior standing. Computer graphics with emphasis on engineering applications. Topics include hardware characteristics of graphics system, mathematical elements and programming techniques for two- and three-dimensional graphics, user interface design and selected engineering applications.
- 580. COMPUTERS IN CONTROL ENGINEERING (3). Pr., departmental approval. Computer use in closed-loop feedback control and sequential control. Basic microprocessor architecture and operation, sensors and instrumentation, computer interface techniques and introductory discrete control theory.
- 584. MANUFACTURING ENGINEERING IV: ROBOTICS (3), LEC. 2, LAB. 3. Pr., IE 380, 470. Fundamentals of robotic applications; introduction to the concept of programmed manufacturing systems.
- 588. MANUFACTURING ENGINEERING II: GAGES AND MEASUREMENTS (3). LEC. 2, LAB. 3. Pr., IE 380. The science of measurement as applied to production and inspection of industrial products.
- 590-591-592. INDUSTRIAL ENGINEERING PROBLEMS (1-5). Pr., department head approval. Individual student endeavor under staff supervision involving special problems of an advanced undergraduate or graduate nature in IE. Interested student must submit written proposal to department head.
- 593-594-595. INDUSTRIAL ENGINEERING SPECIAL TOPICS (1-5), Pr., departmental approval. Special topics courses of an advanced undergraduate or graduate nature pertinent to IE. Specific prerequisites will be determined and announced for each such offering.

### Interdepartmental Education (IED)

Included in this section are program areas and course listings designed and taught on the interdepartmental basis.

517. PROFESSIONAL WRITING IN EDUCATION (2). Education discourse; strategies and techniques in educational writing; reference sources; the preparation of manuscripts for publication in professional journals.

## Journalism (JM)

Professor Brown, Head

Associate Professors Johnson, Morgan, Strain and Williams Assistant Professors Fairley, Mercer and Sheppard

Freshman English is prerequisite for all journalism courses except JM 101.

- 101. NEWSPAPER STYLE (3). Required for all journalism and corporate journalism majors and minors. The AP Stylebook and common errors in word selection in newspaper writing.
- 111. NEWSPAPER LAB (1). Pr., JM 101. (S-U grading only). Required for all journalism and corporate journalism majors and minors. Student will work a minimum of 20 hours for *The Aubum Plainsman* in reporting, writing, editing or page makeup.
- BEGINNING NEWSWRITING (5). Pr., JM 101; reasonable typewriting skills. Introduction to newswriting, newspaper style and mechanical practice.
- INTRODUCTION TO PUBLIC RELATIONS (5). Pr., JM 101. Spectrum of the field of public relations.
   Communication skills and technologies for public relations are explored. Credit for this course precludes credit for PR 304.
- REPORTING (5). Pr., JM 221; reasonable typewriting skills. Technical aspects of reporting and newsgathering methods.
- 314. EDITING (3). Pr., JM 221. Methods of editing copy, writing headlines and proof reading.

### Laboratory Technology

- BASIC JOURNALISM (3). Not to be used for a major or minor in Journalism. Introduces practices of news coverage and writing.
- NEWSPAPER DESIGN (5). Pr., JM 221. Typography and design with practice applications in putting together newspaper pages.
- 322. FEATURE WRITING (5). Pr., JM 221 or departmental approval. Gathering material for the writing of "human interest" and feature articles for newspapers and magazines, with consideration given to the marketing of manuscripts.
- 323. NEWSPAPER MANAGEMENT (5). Pr., JM 221 and 321. Procedures, policies, ethical considerations and problems in producing the community newspaper.
- 404. PUBLIC RELATIONS CASE STUDIES (5), Pr., JM 304 or PR 304 or departmental approval. Investigation and analysis of public relations problems through case studies. Credit for this course precludes credit for PR 404.
- 421. PHOTO-JOURNALISM (5). Uses and processes of photography in the newspaper and magazine field. Operation of press cameras and the technique of developing, printing and enlarging of pictures are covered.
- 422-423. JOURNALISM WORKSHOP (1-1). Pr., JM 313, 314, 321, 322, departmental approval. A two-quarter course giving practical experience in preparation of newspaper, radio, television, and magazine copy through supervised work. The student is expected to work 10 hours per week.
- 425. JOURNALISM INTERNSHIP (4). Pr., JM 313, 314, 321, 322, departmental approval. A full-time internship of at least 10 weeks with an approved publication, serving as a regular staff member under the direction of the editor.
- MAGAZINE CONCEPTS (5). Pr., JM 221. Methods and problems of publishing the popular and trade magazine.
- HISTORY AND PRINCIPLES OF JOURNALISM (5). Development of the American press, principles and ideals of modern journalism and law of the press.
- FREELANCE FEATURE WRITING (5). Pr., JM 314, 322. Production and selling of ideas, articles and photographs in local markets and to national publications.
- JOURNALISM SPECIAL STUDIES (1-5). Pr., departmental approval. Research and analysis of specific journalistic problems. Or lectures and seminars by visiting professional journalists.
- ADVANCED REPORTING (3). Pr., JM 313, 314, 321, 322, departmental approval. Developing and writing news stories under deadline pressure; investigative and interpretive reporting.

## Laboratory Technology (LT)

Associate Professor Kohl

Affiliate Associate Clinical Professors Adams, Bridger, Burgert, Davis and Patterson Adjunct Instructor Milly

Affiliate Clinical Instructors Chapkaphak, Crider, Chappell, Jackson, Plagge and Young

- ORIENTATION (1). Fall, Winter. Aims, objectives and requirements for careers in medical and laboratory technology.
- HEMATOLOGY (5). LEC. 3, LAB. 6. Pr., CH 207 or departmental approval. Origin, maturation, morphology and function of blood cells; theory of hemostasis; routine hematological laboratory techniques.
- ADVANCED HEMATOLOGY (5), LEC. 3, LAB. 6. Pr., LT 301. Advanced study of lymphohematopoietic and hemostatic disorders; laboratory techniques for evaluation and diagnosis of blood disorders.
- 405. IMMUNOLOGY II (5). LEC. 3, LAB. 6. Pr., MB 543 or departmental approval, junior standing. Immunogenetics, clinical significance of blood group antigens and antibodies, theory and techniques of the serological study of human blood groups.
- 422. HOSPITAL LABORATORY PRACTICE (5), LAB. 15, Pr., LT 301 or departmental approval. Practice applications of the principles, procedures, and techniques encountered in hospital laboratories.
- 525. CLINICAL LABORATORY INSTRUMENTATION (5). LEC. 3, LAB. 6. Pr., CH 519 or 508 or departmental approval. Theoretical and practical application of continuous flow analysis, atomic absorption spectrophotometry, radioimmunoassay and chromatographic techniques used in the analysis of body fluids.

### Management (MN)

Professors Armenakis, Boulton, Boyles, Carr, Feild, Giles, Holley, Mitra and Snyder Associate Professors Niebuhr, *Acting Head*, Byrd, Davis, L. Gardiner, Gibson, Hamis, Norris, Oswald, Rainer, Sankar, Sutton, Swamidass and Wolters

Assistant Professors Ford, S. Gardiner, Marshall, Nambhard, Shafer, Stanwick and Uzumen

A 2.0 GPA is required for enrollment in any Business course at the 300-level or above, This rule applies to both Business and non-Business students. An earned C or above is required for prerequisites for all MIS courses at the 400 and 500 level.

- 207. INTRODUCTION TO COMPUTER PROGRAMMING (3). Pr., 10 hours math, sophomore standing. The computer as a tool in solving business problems, using an appropriate programming language in both a time shared and batch processing environment.
- 301. BUSINESS AND ECONOMIC STATISTICS I (5). Pr., MH 169 or equivalent. Descriptive statistics: probability; probability distributions; normal distribution; introduction to statistical inference making, confidence intervals, hypothesis testing; simple linear regression analysis.
- BUSINESS COMPUTER APPLICATIONS (5). Pr., CSE 100, MN 314. Language and file structures for computer-based business applications using a major business language. Students will write computer programs on individual and team projects.
- 308. ADVANCED PROGRAMMING AND APPLICATIONS (5). Pr., an earned grade of C or better in MN 307. Builds on the business programming language fundamentals learned in MN 307. Language and file structure systems. Introduces advanced applications using these structures, such as object-oriented, visual languages for faster development. Microcomputer-based languages will be explored.
- PRINCIPLES OF MANAGEMENT (5), Pr., junior standing. Management functions and the application of management principles in organizations.
- 314. INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS (2). Pr., CSE 100 and junior standing. The role of computer-based information in business. Covers systems concepts, information management and decision-making concepts related to information systems.
- HUMAN RESOURCES MANAGEMENT (5). Pr., MN 310, junior standing. Management of labor, dealing with selection, training, placement, turnover, payment policies, employee representation, etc.
- ORGANIZATIONAL BEHAVIOR (5). Pr., MN 310, junior standing, Analysis and application of theonies and techniques for understanding, prediction, and management of human behavior in the organizational context.
- 374. BUSINESS AND ECONOMIC STATISTICS II (5). Pr., MN 301 or equivalent, junior standing. Simple linear regression analysis, inferences and predictions from model; multiple regression analysis; experimental design and analysis of variance; goodness of lit tests; nonparametric tests.
- NONPARAMETRIC STATISTICS (3). Pr., MN 301. The analysis of business and economic data by distribution-free statistical methods.
- PRINCIPLES OF OPERATIONS MANAGEMENT (5). Pr., MN 301, 310, junior standing. Modern scientific management as applied in the actual control and operation of industrial enterprises.
- MANAGEMENT DECISION MAKING (5). Pr., MN 301, FI 361, junior standing. Various quantitative techniques as aids in managerial decision making under conditions of perfect and imperfect knowledge.
- 382. MANAGEMENT INFORMATION SYSTEMS (5). Pr., MN 301 or MT 336, junior standing. Analysis, design, and implementation of information systems for the management of business organizations: use of various software packages for business applications.
- 385. PRODUCTIVITY MANAGEMENT (5). Pr., MN 380, junior standing. Application of management procedures and techniques to analyze and control production methods and processes.
- 386. MATERIALS MANAGEMENT I (5). Pr., MN 380, junior standing. Application of management procedures and techniques to the acquisition, inventory, utilization, and distribution of materials in manufacturing.
- MATERIALS MANAGEMENT II (5). Pr., MN 386, junior standing. Continuation of MN 386, includes material requirements planning, capacity planning and control, and shop floor control.
- STUDENT INTERNSHIP PROGRAM (1-10). Pr., junior standing and selection by the committee directing the Management Department Intern Program. (S-U graded).
- 401. ANALYSIS AND DESIGN OF BUSINESS INFORMATION SYSTEMS (5). Pr., an earned grade of C or better in MN 307. General systems techniques, systems analysis and design, database considerations, modern developments, project planning and control, total system integration.
- 404. TELECOMMUNICATIONS MANAGEMENT (5). Pr., an earned grade of C or better in MN 307. Fundamentals of telecommunications and data communications technologies. Provides an understanding of voice communications and data networks, protocols, standards and management. Gives the student a basis for making a business decision in the use of this technology.

- 405. INFORMATION RESOURCE MANAGEMENT (5). Pr., an earned grade of C or better in MN 404. Information Resource Management (IRM) provides an investigation into the management and use of information systems and technology as strategic resources to the organization.
- INTERNATIONAL BUSINESS MANAGEMENT (5). Pr., EC 200, 202, MN 310, MT 331, Fl 361, junior standing. Management of multi-national firms which own subsidiaries in several countries.
- 414. ENTREPRENEURSHIP (5). Pr., AC 211, 212, FI 361, EC 200, 202, MN 301, 310, MT 241, 331. Elements of entrepreneurship as they relate to the planning and development of new ventures. Emphasis on the use of decision-making skills in bringing a new business idea to fruition.
- 415. SMALL BUSINESS MANAGEMENT (5). Pr., MN 414. A consulting opportunity which provides a test of the student's ability to apply skills and knowledge to the problems of an existing small business.
- INDUSTRIAL PROCUREMENT (5). Pr., MN 380, junior standing. Role, procedures, responsibilities, and management of materials acquisition function in industry. Credit cannot be received for MT 434 and MN 420
- 421. MANAGEMENT OF SERVICE OPERATIONS (4). Pr., MN 380. Analysis of operations management activities in service delivery systems. Emphasis placed on a total systems approach to service management.
- ORGANIZATION THEORY (5). Pr., MN 346, junior standing. Organizations as socio-economic-political systems for collective action imbedded in a largely uncontrollable environment.
- 443. LABOR RELATIONS (5). Pr., junior standing. General survey of the development of collective bargaining, major provisions of labor law, and bargaining issues of craft and industrial unions.
- 470. HONORS READINGS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- 472. HONORS THESIS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- 474. QUALITY ASSURANCE (5). Pr., MN 301, 380, junior standing. Fundamental concepts in quality assurance; tools and techniques necessary to carry out quality control and improvement functions; use of control charts in statistical process control.
- 475. MULTICRITERIA DECISION MAKING (3). Pr., MN 380, 381. Quantitative methods and their application in production and distribution problems of business.
- 480. BUSINESS POLICIES AND ADMINISTRATION (5). Pr., AC 211, 212, FI 361, EC 200, 202, MN 310, MT 241, 331, senior standing. Formulation and application of objectives, strategy, and policies pertaining to a total organization. Emphasis on problem-solving and the relationships between the functional areas of an organization.
- 483. DATA BASE MANAGEMENT SYSTEMS (5). Pr., an earned grade of C or better in both MN 308 and 401. Business applications software in a data base environment, complex data and file structures, systems design consideration of global and distributed data bases.
- 484. OPERATIONS MANAGEMENT POLICIES (5). Pr., FI 361, EH 408 or equivalent, MN 380, 385, 386, 387, MT 331. Capstone course for OM students. Application of material presented.
- SPECIAL PROBLEMS (1-10). Pr., departmental approval, junior standing. May be repeated. Investigation and research into problems with special interest for the student. (S-U graded).
- 496. READINGS IN MANAGEMENT (5), Pr., MN 310, junior standing. Readings from prominent periodicals and journals in management theories, practices and functions.

- LABOR RELATIONS LAW (5). Pr., MN 443, junior standing. Analysis of background, content and significance of industrial relations law.
- LABOR RELATIONS IN PUBLIC ORGANIZATIONS (3). Pr., junior standing. The background, legal and constitutional aspects and management of group negotiations and collective bargaining in public employment. (Same as PO 517.)
- 546. PERSONNEL ADMINISTRATION LEGISLATION (5). Pr., MN 342, junior standing. Legal aspects of personnel administration activities.
- 547. EMPLOYEE COMPENSATION (5). Pr., MN 342, junior standing. Factors, philosophy, design and problems of administration in compensation programs.
- PERSONNEL SELECTION AND PLACEMENT (5). Pr., MN 301 or PG 304, MN 342, junior standing.
   Factors involved in developing an effective system for selecting, classifying and placing personnel.
- MANPOWER PLANNING, DEVELOPMENT, AND APPRAISAL (5). Pr., MN 342, junior standing. Theory, practice and design of managerial systems in these specialties.
- 552. PERSONNEL AND ORGANIZATIONAL RESEARCH (5). Pr., MN 301 or equivalent, 342 and junior standing. Application of research methods used in human resource management through primary research projects involving data collection, analysis and writing of research results.
- 553. LABOR NEGOTIATION AND ARBITRATION (5). Pr., MN 443, junior standing. Bargaining issues, preparation for contract negotiation, interest and grievance arbitration of labor-management issues.

- 554. INTERNATIONAL LABOR RELATIONS (3). Pr., MN 443 or MN 410, junior standing. Variations among nations in the structure and government of trade unions, their political and religious ties, and other factors that influence multinational bargaining. Emphasis on industrialized nations.
- 560. A SURVEY OF CURRENT TECHNOLOGIES IN MIS (5), Pr., an earned grade of C or better in MN 314 or equivalent and MN 404, 480, 483 and junior standing. Recent developments in the technologies that impact the effective design, delivery and use of information systems in organizations.
- 588. MIS PROJECTS (5). Pr., an earned grade of C or better in MN 483. Capstone course for the MIS professional option. Synthesizes theory and principles of MIS by designing and implementing MIS projects.

## Marketing and Transportation (MT)

Professors Lambert and Muse Associate Professors Guffey, Head, Abernethy, Adams, Harris, LaTour, Laumer, Nataraajan, and Rotfeld

Assistant Professors Butler, Goff, Lacher, Min, Smith and Straughn

A 2.0 GPA is required for enrollment in any Business course at the 300-level and above. This rule applies to both Business and non-Business students.

## LEGAL ENVIRONMENT

- BUSINESS LAW I (5). Introduction to contracts, sales, torts and insurance; ethics and social influences; and agency.
- 242. BUSINESS LAW II (5). Legal principles concerning secured transactions, bankruptcy, suretyship, trusts and estates, partnership law, real and personal property, corporations, federal securities, regulations, accountant's legal liability, negotiable instruments and ethics and social influences.
- LEGAL AND SOCIAL ENVIRONMENT OF BUSINESS (4). Legal and social environment for business operation with emphasis on contemporary issues.

#### MARKETING

- 331. PRINCIPLES OF MARKETING (5). Pr., junior standing and either EC 202 or for non-business majors, AEC 202 or EC 301. A general survey of the field of marketing covering marketing channels, functions, methods and institutions.
- 332. MARKETING COMMUNICATION MANAGEMENT (5). Pr., MT 331, junior standing, not open to marketing majors. Credit cannot be received for both MT 332 and MT 432. An examination of the principles and applications of promotion in marketing.
- 333. MERCHANDISING MANAGEMENT (5). Pr., MT 331, junior standing, not open to marketing majors. Credit cannot be received for both MT 333 and MT 433. An examination and application of retail merchandising management concepts, principles and fundamentals.
- QUANTITATIVE ANALYSIS IN MARKETING (5). Pr., junior standing, PA 201, MH 161 and an earned grade of C or better in MT 331, MN 301 and MH 169. Examination of the role of quantitative methods in implementing marketing strategy.
- 341. BUYER BEHAVIOR (5). Pr., PG 201 or U 103, junior standing and an earned grade of C or better in MT 331. Analysis of the buying process as it is affected by environmental and institutional forces and development of market strategies which recognize these factors.
- 347. FUNDAMENTALS OF SELLING (5). Pr., MT 331, 341 and junior standing. Knowledge of buyer behavior and skill requirements necessary for successful selling; the sales process; business and social responsibilities of salespersons.
- 400. STUDENT INTERNSHIP PROGRAM (5). Pr., junior standing and selection by the committee directing the Marketing and Transportation Intern Program. Credit hours are not applicable as departmental electives. S-U credit. Summer. (May be repeated for a maximum of 10 hours credit).
- 432. PROMOTIONAL STRATEGY (5). Pr., an earned grade of C or better in MT 331, 336, 341, 436 and junior standing. Problems of persuasive marketing strategy, promotional objectives, methods of implementing these objectives and the approaches by which the methods might be blended.
- 433. RETAIL STORE MANAGEMENT (5). Pr., an earned grade of C or better in MT 331, 336, 341, 436 and junior standing. Principles and practices in the scientific operation of the retail store. Store location, layout, buying, pricing, and merchandise control.
- 434. PURCHASING (5). Pr., an earned grade of C or better in MT 331, 341, 373, MN 301 and junior standing. Objectives, control and the direction of industrial purchasing. Credit cannot be received for MT 434 and MN 420.
- 436. MARKETING RESEARCH METHODOLOGY (5), Pr., an earned grade of C or better in MT 331, 336, 341 and junior standing. Methods of scientific research in the field of marketing and their application to the solution of marketing problems.

### Marketing and Transportation

- 437. SALES MANAGEMENT (5). Pr., an earned grade of C or better in MT 331, 336, 341, 436 and junior standing. Principles and practices of sound organization and administration of sales organization. Includes consideration of: sales department organization, selection, training, compensation, and supervising sales planning, setting up sales territories and quotas.
- 438. MARKETING CHANNEL SYSTEMS (5): Pr., an earned grade of C or better in MT 331, 341, 373, MN 301 and junior standing. The nature and role of marketing channels. Major marketing strategy problems such as designing channel objectives and constraints, distinguishing major channel alternatives, and motivating, evaluating and controlling channel members.
- 440. INTERNATIONAL MARKETING (5). Pr., an earned grade of C or better in MT 331, 336, 341 and junior standing. Adapting the marketing process of the domestic firm to international operations and the institutional structure that exists to service foreign markets and the practice of marketing administration by firms operating within these markets.
- 470. HONORS READINGS (1-6), Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- 472. HONORS THESIS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- 477. BUSINESS LOGISTICS (5). Pr., junior standing and an earned grade of C or better in MT 331, 336 and 373. Problems and analysis in the design and management of logistics systems.
- SPECIAL PROBLEMS IN MARKETING (5). Pr., MT 331 and senior standing. Students conduct investigations of special problems in Marketing. S-U credit. (May be repeated for a maximum of 10 hours credit.)
- 498. MARKETING STRATEGY (5). Pr., an earned grade of C or better in MT 331, 336, 341, 373, 436 and in 15 hours of departmental electives. An integrative capstone course for marketing majors with emphasis on strategic planning.

### ADVANCED UNDERGRADUATE

- 581. SPECIAL STUDIES IN MARKETING RESEARCH (5). Pr., an earned grade of C or better in MT 336, 341, 436. Specialized in-depth study and research projects within a particular subject area.
- SPECIAL STUDIES IN RETAILING/MERCHANDISING (5). Pr., an earned grade of C or better in MT 336, 341, 433, 436. Specialized in-depth study and research projects within a particular subject area.
- 583. SPECIAL STUDIES IN PROMOTION (5). Pr., an earned grade of C or better in MT 336, 341, 432, 436. Specialized in-depth study and research projects within a particular subject area.
- 584. SPECIAL STUDIES IN PRODUCT MANAGEMENT (5). Pr., an earned grade of C or better in MT 436. Speciaized in-depth study and research projects in product management.
- 585. SPECIAL STUDIES IN INTERNATIONAL MARKETING (5). Pr., an earned grade of C or better in MT 336, 341, 436, 440. Specialized indepth study and research projects in international marketing.

#### TRANSPORTATION AND PHYSICAL DISTRIBUTION

- 372. PRINCIPLES OF TRANSPORTATION (5). Pr., EC 200 and junior standing. The development of systems of transportation. Analysis of rates and their effects upon commerce and industry. Government regulation of transportation agencies.
- 373. INTRODUCTION TO PHYSICAL DISTRIBUTION (5). Pr., MT 331 and junior standing. Fundamentals of physical distribution activities and their interrelationships in the management of the distribution process.
- 400. STUDENT INTERNSHIP PROGRAM (5). Pr., junior standing and selection by the committee directing the Marketing and Transportation Intern Program. Credit hours are not applicable as departmental electives. S-U credit. (May be repeated for a maximum of 10 hours credit).
- 470. HONORS READINGS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- HONORS THESIS (1-6). Pr., open only to persons in the University Honors Program and with consent of the student's Honors Advisor.
- 474. INDUSTRIAL TRAFFIC MANAGEMENT (5). Pr., MT 372 and junior standing or departmental approval. Problems and policies involved in the traffic management function of the industrial firm.
- 475. TRANSPORTATION REGULATION AND PUBLIC POLICY (5). Pr., MT 372 and junior standing or departmental approval. Economic, legislative, and administrative problems related to regulation of transportation and utility rates and services.
- 476. CARRIER MANAGEMENT POLICY AND PRACTICE (5). Pr., MT 372, 475, or departmental approval and junior standing. Problems and policies in the management and administration of transport enterprises of different modal types, primarily air, rail and motor.
- 477. BUSINESS LOGISTICS (5). Pr., an earned grade of C or better in MT 331, 336 and 373. Problems and analysis in the design and management of logistics systems.

SPECIAL PROBLEMS IN TRANSPORTATION (5). Pr., MT 372 and senior standing. Qualified students conduct investigations of special problems in Transportation. S-U credit. (May be repeated for a maximum of 10 hours credit.)

#### ADVANCED UNDERGRADUATE

588. SPECIAL STUDIES IN TRANSPORTATION/LOGISTICS (5). Pr., MT 372, and two from 373, 475, 476 and 477. Specialized in depth study and research projects within a particular subject area.

## Materials Engineering (MTL)

Professors Chin, Chairman, Jang, Jemian, Wilcox and Zee Associate Professor Thakur Assistant Professor Gale, Fergus and Yang

Responsibility for this curriculum rests with the interdisciplinary Materials Engineering Curriculum Committee. Questions should be directed to the Department of Mechanical Engineering, which administers the program. General Curriculum, CLA, students (those with undeclared majors) may enroll only with departmental consent.

- STRUCTURE OF MATERIALS (3), Pr., CH 103, PS 220 or 205. Theories and structures of crystalline
  and amorphous materials. Bonding, crystal classes, defects, and atomic movement. (Mainly for Materials majors.)
- 220. MATERIALS AND PROPERTIES I (3). Pr., CH 103, PS 220. Methods of mechanical testing, effects of environment, deformation and annealing, failure and non-destructive testing as related to the properties of materials.
- 320. MATERIALS AND PROPERTIES II (4). LEC. 3, LAB. 3. Pr., MTL 220. Relationship between structure and properties of materials; solidification, mechanisms of alloy strengthening, phase transformations, heat treatments and material systems.
- 336. PHYSICAL ANALYSIS OF MATERIALS I (4). LEC. 3, LAB. 3, Pr., MTL 320. The analysis and interpretation of the structures of materials using optical techniques. Specific physical properties will be measured. Samples will be prepared and processed by the students.
- 337. PHYSICAL ANALYSIS OF MATERIALS II (3). Pr., MTL 220. The analysis and interpretation of the structures and properties of materials using special techniques. Diffraction, radiography and various non-destructive test procedures will be employed.
- 338. PHASE DIAGRAMS (3), Coreq., MTL 320. Methods of representing and interpreting phase equilibria. Binary and multicomponent systems. Simpler temperature-composition systems and more complex temperature-pressure-composition systems. Major emphasis on applications. Minor emphasis on phase diagram determination and thermodynamics.
- 420. STRUCTURE AND PROPERTIES LABORATORY (3). LEC. 1, LAB. 6. Pr., MTL 336. Coreq., MTL 447. Emphasizes the use of processing and thermo-mechanical treatments to control the microstructure of a material. Tests are then conducted on both polymer and metallic materials to investigate the relationship between the microstructure and mechanical properties.
- 435. PHYSICAL ANALYSIS OF MATERIALS III (4). LEC. 3, LAB. 3. Pr., MTL 320. The evaluation of microscopic structural features, anisotropic materials properties and the detection and interpretation of flaws. Microscopy, radiography and other non-descructive test methods will be employed.
- 436. ENGINEERING MATERIALS SCIENCE—FERROUS METALLURGY (3). Pr., MTL 336. Design of ferrous metals following modern theory and practice. Hardenability, alloying deformation, and special purpose steels.
- 445. TRANSFORMATIONS IN CONDENSED PHASES (4), LEC. 3, LAB. 3. Pr., MTL 320, MTL 550, and MTL 436. Important transformations in both metallic and non-metallic materials with crystalline or glass structures. Structures, mechanisms, distinctive characteristics and applications will be studied. Selected transformations will be studied in the laboratory.
- 446. THEORETICAL MATERIALS ENGINEERING (3). Pr., MTL 575. Goreq. MTL 570, 513. The physical properties of materials in relation to modern theories.
- 447. MECHANICS OF ENGINEERING MATERIALS (3). Pr., MTL 337. The mechanical properties in relation to structural features of alloys, plastics, ceramic materials and composites under static, dynamic and cyclic service and test conditions. Conditions for the attainment of optimum properties and behavior will be emphasized.
- 448. INTRODUCTION TO CERAMICS (3). Pr., MTL 210, 320. The engineering applications and design principles of important ceramic materials will be studied with particular attention directed to the structure-property relationships. Both glassy and crystalline ceramic materials will be included.
- 479. HONORS THESIS (1-6). Pr., departmental approval and department head approval. Individual student directed research and writing of honors thesis. (MTL Honors Program students only. May be repeated once for a maximum of six total credit hours.)

- 491. DIRECTED READING IN MATERIALS ENGINEERING (VARIABLE CREDIT). Pr., senior standing. Areas of current interest within materials engineering. Maximum credit of 5 hours per quarter and cannot be taken more than two quarters for a maximum of six total credits.
- 498. ADVANCED PROJECTS I (2). Pr., senior standing. Selection and the development of a plan for a design project to be completed in Advanced Projects II. Issues relating to the management of a project and the writing of reports will be discussed.
- 499. ADVANCED PROJECTS II (4). LEC. 1, LAB. 9. Pr., MTL 498. Completion of projects culminating in a formal presentation and written report.

- 501. MATERIALS ENGINEERING PHYSICS FOR TEACHERS (3). Pr., PS 207 or CH 207. Materials engineering and technological systems of the future and the relationship of technology development with physical concepts. For prospective and practicing secondary and/or middle school teachers with emphasis on science and educational methods. Cannot be used as technical elective or graduate credit for students in science, mathematics or engineering.
- 513. INTRODUCTION TO X-RAY CRYSTALLOGRAPHY (3). Pr., departmental approval or MTL 337. Principles of crystallography, the reciprocal lattice, theory of x-ray diffraction and the powder, Laue and diffractometer methods.
- 514 X-RAY AND NDT LABORATORY (3). LEC. 1, LAB. 6. Pr., departmental approval or MTL 513. The analysis and interpretation of the structures and properties of materials using special techniques. Emphasis will be placed on x-ray diffraction and other non-destructive techniques.
- 515. POLYMER TECHNOLOGY I (3). Pr., MTL 320. Important aspects of polymer science, connection between chemical structure and important properties of modern plastics and synthetic structural materials; the common methods of fabrication of these into articles and the basic chemistry behind their manufacture.
- 516, POLYMER TECHNOLOGY II (3). Pr., MTL 515 or TE 424. Continuation of MTL 515. Polymerization and condensation polymers. Modes of labrication, special use selection requirements and number of commercially available materials and their areas of use.
- MANUFACTURING PROCESSES AND MATERIALS (3). Pr., junior standing, MTL 320 and departmental approval. Principles and engineering problems involved in the fabrication of materials.
- THERMODYNAMICS OF MATERIALS SYSTEMS (3). Pr., EGR 201, CH 507 and MTL 338, The laws
  of thermodynamics applied to the stability of materials phases, crystal imperfections, solubility, oxidation, surface and interfacial energy and transformations.
- ELECTRICAL PROPERTIES OF MATERIALS (3), Pr., EE 302. The electrical properties of materials with emphasis on semiconductors.
- 575. RATE PROCESSES IN MATERIALS (3). Pr., MTL 550, or departmental approval and junior standing. Diffusion in the gas, liquid and solid phases and the fundamentals of chemical reaction kinetics pertinent to the crystallization and transformation of materials.

### Mathematics (MH)

Professors Kozlowski, Head, Albrecht, DeSouza, Govil, Gruenhage, Heath, Hetzer, Hill, J. Holmes, Kallenberg, Kilgore, W. Kuperberg, Minc, Pate, J. Rogers, Sampson, Smith, Szulga, Uhlig, Zalik and Zenor

Alumni Professors J. Brown and K. Kuperberg

Associate Professors Baldwin, Bezdek, Daniels, Goeters, Han, Hinrichsen, R. Holmes, Liao, Meir, Nylen, Schmidt, Slaminka, Transue, Ullery and Young Assistant Professors Koszmider, Shen and Stuckwisch Instructors S.J. Brown and J.S. Rogers

- (*) Denotes the course is not available to majors or graduate students in the area of science or mathematics.
  - (**) Denotes this is a non-credit course for students in some scientific and technical curricula.
- 100. MATHEMATICAL INSIGHTS (5). For students in the arts or humanities. Gives students insight into the nature of mathematics by engaging them in mathematical thought processes within a suitable elementary framework. Prior credit for any other University mathematics course precludes credit for this course.
- 140. COLLEGE ALGEBRA (5). Pr., high school geometry, second year high school algebra or departmental approval." Algebraic techniques, coordinate geometry, functions and relations and their graphs and common logarithms. A preparatory course for MH 160 and 161. Credit is not allowed for both MH 140 and 160.
- 155. ANALYTIC GEOMETRY (5). Pr., MH 160 or equivalent. Plane and solid analytic geometry. Lines, planes, circles, spheres, vectors, conics, change of coordinates, polar coordinates, parametric equations, curve sketching.

- 160. PRE-CALCULUS WITH TRIGONOMETRY (5), Pr., high school geometry, second year high school algebra or departmental approval." The basic analytic and geometric properties of the algebraic and trigonometric functions with heavy emphasis on the latter. A preparatory course for the calculus sequence. Students who need a review of algebraic techniques should take MH 140. Credit is not allowed for both MH 140 and 160.
- ANALYTIC GEOMETRY AND CALCULUS (5). Pr., MH 160. Limits, the derivative, applications of the derivative, antiderivatives; the definite integral; the fundamental theorem of calculus. Credit is not allowed for MH 161 and 191.
- 162. ANALYTIC GEOMETRY AND CALCULUS (5). Pr., MH 160 and 161. Integrals, applications of the integral, the calculus of the exponential and logarithmic functions. The calculus of the trigonometric and inverse trigonometric functions, the conic sections. Credit is not allowed for both MH 162 and 192.
- ANALYTIC GEOMETRY AND CALCULUS (5). Pr., MH 162. Techniques of integration, indeterminate forms, improper integrals, solid analytic geometry, multiple integrals. Credit is not allowed for both MH 163 and 193.
- 169. BUSINESS MATHEMATICS WITH CALCULUS APPLICATIONS (5). Pr., MH 161. Selections from calculus, elementary combinatorial analysis, probability theory, linear algebra, linear programming with emphasis on business applications. For students in the College of Business and not open, except by special permission of the Department of Mathematics, to students in engineering or the mathematics or physics majors.
- HONORS CALCULUS I (5). Pr., MH 160. Limits, the derivative, applications of the derivative, anitderivatives; the definite integral; the fundamental theorem of calculus. Credit is not allowed for both MH 171 and 161 or 191.
- 172. HONORS CALCULUS II (5). Pr., MH 171. Integrals, applications of the integral, the calculus of the exponential and logarithmic functions, the calculus of the trigonometric and inverse trigonometric functions, the conic sections. Credit is not allowed for both MH 172 and 162 or 192.
- HONORS CALCULUS III (5), Pr., MH 172. Techniques of integration, indeterminate forms, improper integrals, solid analytic geometry, multiple integrals. Credit is not allowed for both MH 173 and 163 or 193.
- 191-192-193. CALCULUS FOR ENGINEERING AND SCIENCE (5-5-5). Pr., MH 160. Plane and solid analytic geometry, real and vector valued functions, limits, derivatives and antiderivatives of algebraic and trigonometric functions. Integrals, the Fundamental Theorem of Calculus, line integrals, potential functions, force fields, and surface integrals. Methods of integration, in determinate forms, improper integrals. Credit is not allowed for both MH 161-162-163 and 191-192-193.
- ANALYTIC GEOMETRY AND CALCULUS (5). Pr., MH 163. Infinite series, partial derivatives, vector calculus. Credit is not allowed for both MH 264 and 294.
- 265. LINEAR DIFFERENTIAL EQUATIONS (3). Coreq., MH 264. First and second-order linear differential equations including the solution of such equations by infinite series.
- TOPICS IN LINEAR ALGEBRA (3). Pr., MH 163, Linear spaces, vector spaces, linear transformations, matrices and determinants. Not open to students who have credit for MH 337, 531 or 505 or 537.
- 267. DISCRETE PROBABILITY (5). Coreq., MH 161. For students whose fields require a basic knowledge of probability and for those who plan to take upper level courses in probability and statistics. Conditional probability, independence and random variables with emphasis on discrete random variables.
- ELEMENTARY DIFFERENTIAL EQUATIONS (5), Pr., MH 264. Ordinary differential equations with applications. Credit for this course precludes credit for MH 265.
- 271. INTRODUCTION TO MATHEMATICAL PROGRAMMING (3). Coreq., MH 264. Introduction to the organization and characteristics of the digital computer, and to programming in FORTRAN, with applications to problems in algebra and the calculus.
- 272. MATHEMATICAL PROGRAMMING AND NUMERICAL ALGORITHMS (3). Coreq., MH 265 and 266. Pr., MH 271. Introduction to numerical methods for solution of ordinary differential equations and systems of linear equations. Further programming practice in FORTRAN.
- HONORS CALCULUS IV (5). Pr., MH 173. Infinite series, partial derivatives, vector calculus. Credit is not allowed for both MH 274 and 264 or 294.
- 285. MATHEMATICS FOR ELEMENTARY EDUCATION (5). Pr., MH 160 or higher. Appropriate mathematical insights for elementary school teachers. Emphasis on the structure of the number systems and informal geometry. Open for credit only to students in elementary education, except by special permission of the Department of Mathematics.
- CALCULUS FOR ENGINEERING AND SCIENCE (5). Pr., MH 193. A continuation of MH 191-192-193. Sequences, infinite series introduction to complex variables. Credit is not allowed for both MH 264 and 294.

- 301. HISTORY OF MATHEMATICS (3). Pr., MH 163 or departmental approval. The evolution of modern mathematics from its motivational roots in the physical sciences; the lives and contributions of outstanding mathematicians; the parallel development of mathematics and western culture.
- 331-332. INTRODUCTION TO MODERN ALGEBRA I, II (5-5). Pr., MH 163. Sets, mappings, the integers, isomorphisms, and homomorphisms; groups, rings, fields, ideals. Credit is not allowed for both sequences MH 331-332 and 333-334.
- ELEMENTARY GROUP THEORY (3). Pr., MH 337. Groups, subgroups, normal subgroups, factor groups, homomorphisms, direct products, Sylow theories.
- ELEMENTARY RING THEORY (3). Pr., MH 333. Rings, ideals, polynomial rings, prime ideals, maximal ideals, fields of quotients. Credit is not allowed for both sequences MH 331-332 and 333-334.
- INTRODUCTION TO LINEAR ALGEBRA (5). Pr., MH 163. Matrices; systems of equations; determinants; vector spaces; linear transformations; inner products; unitary, Hermitian and normal matrices; eigenvalues and eigenvectors; diagonalization of Hermitian matrices. Credit for this course precludes credit for MH 266.
- ENGINEERING MATHEMATICS I (3). Pr., MH 265. Fourier Series, partial differential equations, special functions.
- EXPERIENTIAL LEARNING IN MATHEMATICS (2). Pr., MH 163. Not for credit toward major or minor in mathematics. General elective credit only. Maximum number of credit hours is six.
- HONORS THESIS (3-6). Pr., senior status and enrollment in Aubum University Honors Program. May be repeated once for maximum of six hours credit.
- 491. SPECIAL PROBLEMS (1-5). Pr., departmental aproval, junior standing. An individual problems course. Each student will work under the direction of a staff member on some problem of mutual interest.
- 500. MATHEMATICAL MODELING CONTINUOUS (5). Pr., MH 265, 269, or 528; an ability to program in FORTRAN. Introduction to mathematical models and related techniques. Course includes general principles involving continuous deterministic problems and a detailed, specific term-project.
- 501. THE CALCULUS OF VECTOR FUNCTIONS (3). Pr. MH 266 or departmental approval. Derivative and integral of vector functions, gradient, divergence, curl, Green's Theorem, Stoke's Theorem.
- 502. TENSOR ANALYSIS (3). Pr., MH 264 and 501. The Frechet derivative; tensors and tensor valued functions; coordinate transformations; contravariant tensors; tangent spaces; differential forms; wedge products of forms; Einstein summation convention (raising and lowering indices); Riemannian metrics.
- 503. COMPLEX VARIABLES WITH APPLICATIONS I (5). Pr., MH 265 or 269. Complex functions and their elementary mapping properties; Cauchy-Goursat theorem; contour integration and residues; Laurent series; applications to real integrals. The sequence MH 503-504 is appropriate for students of engineering or science.
- 504. COMPLEX VARIABLES WITH APPLICATIONS II (3). Pr., MH 503. Linear fractional transformations; conformal mappings; harmonic functions; applications to boundary value problems; analytic continuation; entire functions. The sequence MH 503-504 is appropriate for students of engineering or science.
- MATRIX THEORY AND APPLICATIONS (5). Pr., MH 266 or 531. Canonical forms, determinants, linear equations, characteristic value problems.
- 506. ELEMENTARY PARTIAL DIFFERENTIAL EQUATIONS (3). Pr., MH 362. First and second order linear partial differential equations with emphasis on the method of eigenfunction expansions.
- ELEMENTS OF NUMERICAL ANALYSIS (5). Pr., MH 264. The numerical solutions of selected problems arising in calculus and algebra along with the programming techniques.
- 513-514. CALCULUS OF VARIATIONS I, II (3-3). Pr., MH 265 or 269. Fundamental concepts of extrema of functions and functionals; the simplest problem of the calculus of variations; first and second variations; generalizations of the simplest problem; sufficient conditions; constrained functionals; the general Lagrande problem; optimal control.
- 516-517. INTRODUCTION TO APPLIED MATHEMATICS I, II (3-3). Pr., MH 265, 266 or equivalent, Special functions, othogonal polynomials, integral equations, boundary value problems, Sturm-Liouville theory, systems of ordinary differential equations and elements of linear control theory, Lie groups, singular perturbations, boundary layers, Zeeman and Stark effects, classification of catastrophe sets, bifurcation of equilibrium states in one dimension, Hopf bifurcation, nonlinear oscillations.
- 518-519. INTRODUCTION TO APPROXIMATION THEORY I, II (4-4). Pr., MH 265 or departmental approval. The approximation of functions by polynomials, spline functions or trigonometric function, using techniques of interpolation or expansion in series. The sequence MH 518-519 is appropriate for students of engineering and science.
- 520-521-522. ANALYSIS I, II, III (5-5-5). Pr., MH 264. The real number system, theorems concerning number sets, sequences, graphs of functions; Rieman-Stieltjes integration, continuity, the derivative and functions of bounded variation; functions whose domains are in Euclidean spaces.

- 524. FOURIER ANALYSIS (5). Pr., MH 521, an ability to program FORTRAN. Convergence and oscillation theorems for Fourier Series. Gibbs phenomenon. Fourier transform. Fast Fourier transform.
- 528. SYSTEMS OF DIFFERENTIAL EQUATIONS AND APPLICATIONS (5). Pr., MH 265 and 266 or equivalent. Linear systems of differential equations, stability, phase portraits; non-linear systems, linearization, qualitative properties of orbits, Poincare-Bendixson Theorem; numerical methods; applications to various disciplines.
- 531. INTRODUCTION TO MODERN ALGEBRA III (5). Pr., MH 332. A continuation of MH 331-332.
- 533. RING AND FIELD THEORY (3). Pr., MH 334. A continuation of MH 334. Unique factorization domains, fields and field extensions, algebraic and transcendental extensions, algebraic closures, algebras.
- 534. GALOIS THEORY (3). Pr., MH 533. Solvable groups, automorphism groups, radical extension, normal extensions, separable extensions.
- LINEAR ALGEBRA (5). Pr., MH 266 and 332. Linear transformations, matrix algebra, finite-dimensional vector spaces.
- 538-539-540. INTERMEDIATE EUCLIDEAN GEOMETRY I-II-III (5-5-5). Pr., MH 163, An outline of the fundamental concepts and theorems of plane and solid Euclidean geometry with an introduction to higher dimensions. Regular polygons and polyhedra, symmetry groups, convexity, geometric extremum problems. Geometric transformations and their invariants.
- 541-542. GEOMETRY, A MODERN VIEW I, II (5-5). Pr., MH 163. A development of geometry using the real number system and measurement as proposed by G. D. Birkhoff. The course moves rapidly, with definitions and proofs, through the foundations of geometry and into the main body of geometric theory.
- 543. LINEAR GEOMETRY (5). Pr., MH 163. Transformations in projective, affine, and Euclidean planes.
- 544. COMBINATORIAL GEOMETRY IN THE PLANE (5). Pr., MH 163. Helly's and related theorems.
- 547. ONE-DIMENSIONAL DYNAMICAL SYSTEMS (3). Pr., MH 265 or departmental approval. An introduction to dynamical systems with an emphasis on applications. The study of the logistic equation will motivate this course which will include the following topics; bifurcation theory, chaos, hyperbolicity, symbolic dynamics, Sarkovskii's theorem, maps of the circle, homoclinic points and the theory of kneading sequences.
- 548. MULTI-DIMENSIONAL DYNAMICAL SYSTEMS (3). Pr., MH 547 or departmental approval. Extends the results of MH 547 to multi-dimensional systems and will describe in addition, the new phenomena that occur. Topics to be considered will be: the Lorenz map, strange attractors, the horseshoe map, toral automorphisms, stable and unstable manifolds, periodic points and the Henon map.
- 549. COMPLEX ANALYTIC DYNAMICAL SYSTEMS (3). Pr., MH 548 or departmental approval. Focuses on the dynamics of analytic mappings of the complex plane. Topics to be considered will be: quadratic maps, Julia sets, normal families and exceptional points, periodic sets and the exponential map.
- INTRODUCTION TO TOPOLOGY (5). Pr., MH 520 or departmental approval. Metric spaces, topological spaces, continuity, compactness, connectedness, product and quotient spaces and local properties.
- 555. INTRODUCTION TO RECURSION THEORY (5). Pr., DMS 371 or departmental approval. Partial recursive functions, recursive and recursively enumerable sets. Church's Thesis. Acceptable enumerations, Kleene's T-predicate, and the recursion theorem. The halting problem, the jump operation, and Turing degrees. Other recursively unsolvable problems.
- 563. INTRODUCTION TO NUMERICAL ANALYSIS 1 (5). Pr., MH 255 or 269 and an ability to program in a high level language. Numerical solution of equations in one variable, polynomial approximation, numerical differentiation and integration, numerical solutions of ordinary differential equations, error analysis. Students will be expected to write computer programs using the algorithms discussed.
- 564. INTRODUCTION TO NUMERICAL ANALYSIS II (5). Pr., MH 266 or 337 and an ability to program in a high level language. Direct and iterative numerical solutions of systems of linear equations, numerical computation of eigenvalues and eigenvectors, error analysis, Students will be expected to write computer programs using the algorithms discussed.
- 565. THEORY OF NONLINEAR OPTIMIZATION (5). Pr., MH 264 and 266, or equivalent. Kuhn-Tucker conditions, quadratic programming, search methods and gradient methods, Lagrangean and penalty function methods.
- 566. INTRODUCTION TO NUMERICAL ANALYSIS III (5). Pr., MH 563 and 564 or departmental approval. Approximation theory, numerical solution of systems of non-linear equations, singular value decomposition and least-square problems, direct and indirect methods for sparse matrices.
- 567. PROBABILITY THEORY (3). Pr., MH 264. An introduction to probability. Random variables, discrete and absolutely continuous distributions. The Poisson process. Expectation and conditional expectation. Moments and moment generating functions. Convergence and limiting distributions. Problem solving.

- 568-569. MATHEMATICAL STATISTICS I-II (3-3). Pr., MH 567. Introduction to the mathematical theory of statistics. Estimation and maximum likelihood estimates. Sampling distributions, confidence intervals, hypothesis testing, the likelihood ratio test, sufficiency, completeness and Rao-Blackwell theorem. Analysis of vanance; regression and least squares. Sequential analysis. Bayesian estimation, Nonparametric methods.
- 581. FOUNDATIONS OF GROUP THEORY FOR SECONDARY SCHOOL TEACHERS* (4), Pr., one course above MH 163. Elements of the theory of groups emphasizing geometric and other examples.
- 583. FOUNDATIONS OF LINEAR ALGEBRA FOR SECONDARY SCHOOL TEACHERS" (4). Pr., one course above MH 163. Matrix algebra, quadratic forms with emphasis on geometric interpretations in two and three dimensions.
- 584. FOUNDATIONS OF NUMBER THEORY FOR SECONDARY SCHOOL TEACHERS* (4). Pr., one course above MH 163. Divisibility, Diophantine equations, congruences.
- 585. FUNDAMENTALS OF ALGEBRA FOR SECONDARY SCHOOL TEACHERS* (4). Pr., one course above MH 163. Structure of the ring of integers; polynomial rings.
- 586. FOUNDATIONS OF NON-EUCLIDEAN GEOMETRY FOR SECONDARY SCHOOL TEACHERS*
  (4). Pr., one course above MH 163. B.L. geometry, hyperbolic geometry, absolute geometry, parallel postulates.
- 587. FUNDAMENTALS OF ANALYSIS FOR SECONDARY SCHOOL TEACHERS* (4). Pr., one course above MH 163, Mathematical analysis with emphasis on basic principles and relationships. Students will develop the material from basic concepts.
- 588-589. CERTIFICATION MATHEMATICS FOR SECONDARY SCHOOL TEACHERS* (5-5). Pr., under-graduate major in mathematics and departmental approval. Summer. For secondary school teachers who are working towad Class A certification. Topics will be selected from analysis, algebra and geometry according to the needs and interests of the students enrolled.
- 592-593-594. ACTUARIAL MATHEMATICS (3-3-3). Pr., MH 567. A development of the mathematical theory of life insurances and annuities. The theory of pension funding and valuation. Modelling claims processes and analysis of the ruin problem.
- SPECIAL TOPICS (1-5). Pr., departmental approval. Topics may vary as needed. May be taken for credit more than once.

## Mechanical Engineering (ME)

Professors Goodling, Head, Chin, Dyer, Raju, Siginer, Sinha, Walker, Wilcox and Zee Distinguished University Professor Crocker

Alumni Professor Jang

Associate Professors Beale, Bhavnani, Khodadadi, Madsen, Suhling and Thakur Assistant Professors Fergus, Flowers, Gale, Jones, Knight, Mackowski, Marghitu, Tippur and Yang

General Curriculum, CLA, students (those with undeclared majors) may enroll only with departmental consent.

- MECHANICS OF MATERIALS II (3). LEC. 2, LAB. 3. Pr., EGR 207. Normal and shear stresses in beams; beam deflections; pressure vessels; combined loading; failure criteria and superposition; buckling of columns.
- 296. COMPUTATION LABORATORY (3). LEC. 2, LAB. 3. Pr., CSE 120, MH 163. Advanced computer programming with mechanical angineering applications including linear equations, non-linear equations, integration, curve litting, differential equations and drafting.
- THERMODYNAMICS II (3). Pr., EGR 201. Property relations and property determination, Maxwell's relations, thermodynamics of mixtures, combustion and chemical equilibrium.
- 311. ENERGY I (3). Pr., EGR 201. Thermodynamics of ideal and real power conversion cycles and devices, introduction to practical systems, availability analysis.
- 340. FLUID MECHANICS I (3), Pr., ME 296 or equivalent computer programming skills, EGR 201, 235. Coreq., EGR 207. Fluid properties; fluid statics; integral forms of mass conservation, linear momentum balance and angular momentum balance; applications to external and internal flows; fluid kinematics; differential form of mass conservation.
- FLUID MECHANICS II (3). Pr., ME 340. Coreq., ME 304. Euler and Bernoulli equations; dimensional analysis and similitude; boundary layer concept; internal viscous flows; introduction to one-dimensional compressible flow.
- DYNAMICS OF MACHINES (4). LEC. 3, LAB. 3. Pr., EGR 207, 235, ME 296. Theory and analysis of mechanical machines by kinematics and force analyses of mechanisms and assemblies of mechanisms.

- 397. MEASUREMENTS LABORATORY (2). LEC. 1, LAB. 3. Pr., ME 304. Coreq., ME 341. Theory and practice of engineering measurements; treatment of experimental data, report writing, liquid and gaseous flow measurements, temperature, pressure, thermophysical properties.
- THERMAL SYSTEMS LABORATORY (3). LEC. 2, LAB. 3, Pr., ME 397. Selected experiments on thermal systems evaluation.
- HEAT TRANSFER I (3). Pr., EGR 201, EE 302, MH 265 or departmental approval. Fundamentals of heat transfer by steady and unsteady conduction and radiation.
- HEAT TRANSFER II (3). Pr., ME 341, 421 or departmental approval. Fundamentals of heat transfer by free and forced convection, heat exchanger design.
- 454. INTRODUCTION TO DESIGN FOR MANUFACTURE (3). Pr., ME 480. Design methods and part specifications that impact on the manufacture, assembly, service, quality and cost of the product.
- 475. COMPUTER AIDED DESIGN (3), LEC. 2, LAB. 3. Pr., ME 480. Computer-aided design of mechanical systems and machine components. Introduction to finite element methods and optimization.
- MECHANICAL ENGINEERING DESIGN I (4). LEG. 3, LAB. 3. Pr., ME 370, 230. Design of machine elements for static and dynamic stresses with the emphasis on synthesis and creative design.
- 481. MECHANICAL ENGINEERING DESIGN II (3). LEC. 2, LAB. 3. Pr., ME 480 or departmental approval, senior standing. The solution of typical engineering systems problems by group or team effort, requiring development of skill and co-operation in the use of analysis, synthesis, creative design and optimization.
- 485. MANUFACTURING PROCESSES AND SYSTEMS (3), LEC. 3. Pr., ME 230. An introduction to manufacturing processes and systems with empahsis on fundamental principles and applications, process modelling and practical considerations and limitations.
- 490. UNDERGRADUATE SEMINAR (2). Pr., mechanical engineering students only. Attendance at a selection of departmental, college and university seminars and events. Intended to provide a broad perspective on a wide range of engineering issues. S-U grading only. May be repeated for up to six hours of credit.
- DIRECTED READING IN MECHANICAL ENGINEERING (CREDIT TO BE ARRANGED). Pr., senior standing. A study in areas of current interest within mechanical engineering.
- 493. ADVANCED PROJECTS I (2). Coreq., ME 480 and senior standing. The primary objective is the selection and development of a plan for a design project to be completed in ME 494. Both individual and group projects are acceptable. Issues relating to the successful management of a project are addressed.
- ADVANCED PROJECTS II (4). LEC. 1, LAB. 9. Pr., ME 493. Completion of individual or group design project culminating in a formal presentation and written report.
- HONORS THESIS (1-6). Pr., departmental approval and departmental approval. Individual student directed research and writing of honors thesis. (ME Honors Program students only. May be repeated once for a maximum of six total credit hours.)
- 499, INDIVIDUAL STUDY (CREDIT TO BE ARRANGED). Pr., senior standing, Individual study under the guidance of a faculty member.

- 511. ENERGY UTILIZATION (3). Pr., ME 422. Overview of energy sources and conversion systems, followed by energy auditing, efficiency improvements and design procedures for minimizing energy utilization in industrial settings.
- POWER PLANT SYSTEMS (3). Pr., ME 304, 311, senior standing. Theory, design, performance and applications of power plant systems.
- 513. TURBOMACHINES (3). Pr., ME 341 or departmental approval. Applications of fluid mechanics to turbomachines, such as pumps, compressors, fluid couplings, control devices, steam turbines, gas turbine power plants.
- 516. INTERNAL COMBUSTION ENGINE DESIGN (3). Pr., ME 304, 311, 341 or departmental approval. Fundamentals of internal combustion engine (spark and compression ignited) design and analysis, emphasizing thermodynamic processes.
- 520. INTRODUCTION TO COMBUSTION (3). Pr., ME 311, 422 or departmental approval. Thermodynamics and chemical kinetics of combustion processes, ignition, characterization and combustion of gaseous, liquid and solid fuels; design of combustors, environmental aspects of combustion.
- 525. SOLAR ENERGY THERMAL SYSTEMS (3). Pr., ME 422. Review of heat transfer, extra-terrestrial and available solar radiation, transmission and absorption of radiation, design of flat plate collectors, concentrating collectors, energy storage, application of solar energy, active and passive systems, system calculations and economics.
- 526. HEAT EXCHANGER DESIGN (3). Pr., ME 422 or departmental approval. Fundamental, advanced and practical aspects of the design of heat exchangers for liquid and gas flow.

### Mechanical Engineering

- AIR CONDITIONING SYSTEMS (3). Pr., ME 311, 422. Theory and design of heating, ventilating and air conditioning systems.
- REFRIGERATION AND HEAT PUMP SYSTEMS (3). Pr., ME 311, 422. Sizing and selecting refrigeration and heat pump components for specific applications, refrigerants and alternatives.
- 530. APPLIED ELASTICITY (3). Pr., ME 230. Equations of elasticity; applications to axially loaded bars and beams; general theory of torsion; axisymmetric problems; stress distributions near holes; curved beams, numerical solutions; design applications.
- 531. INTRODUCTION TO CONTINUUM MECHANICS (3). Pr., ME 230, 341. Introduction to cartesian tensor analysis. Kinematics of deformation and motion. Fundamental laws and field equations for a continuum. Elementary constitutive equations. Applications to solid mechanics, fluid mechanics and dynamics.
- 533. EXPERIMENTAL STRESS ANALYSIS (3). Pr., ME 230. Applied elasticity; electrical resistance strain gages and associated instrumentation; semiconductor strain gages; transducers; computer-aided data acquistion; uniaxial and torsion testing machines; brittle coatings; design applications.
- 534. PHOTOELASTIC STRESS AND STRAIN ANALYSIS (3). Pr., ME 230. Light, optics and polarization; polariscope theory; isoclinic and isochromatic fringe patterns; model materials and calibration; compensation techniques; dimensional analysis, stress separation; photoelastic coatings.
- 535. INTERMEDIATE DYNAMICS—NEWTONIAN (3). Pr., ME 296, EGR 235. Newtonian approach to the analysis of three-dimensional motion of particles and rigid bodies.
- INTERMEDIATE DYNAMICS—ENERGY METHODS (3). Pr., EGR 235, ME 296. Introduction to variational methods in dynamics. Energy techniques including Lagrangian and Hamiltonian methods.
- 537. DYAMICS OF ROTATING MACHINES (3). Pr., EGR 235, ME 296. Issues involved in the design of high speed machinery. Balancing. Resonance.
- INTRODUCTION TO ROBOTICS (3). Pr., EGR 235, ME 296. Matrix methods in kinematics and kinetics. Applications to robots and human movement.
- 539. FINITE ELEMENT ANALYSIS (3). Pr., ME 230. Fundamentals of finite element analysis. Applications to the design of mechanical components.
- 540. INTERMEDIATE FLUID MECHANICS (3), Pr., ME 340 or MH 362. Navier-Stokes and Euler equations; stream functions; two-dimensional potential flows; complex variable methods; exact solutions to the Navier-Stokes equations; viscous flows; approximate solutions; mathematical techniques.
- 541. COMPRESSIBLE FLUID FLOW (3), Pr., ME 340 and EGR 201. Properties of ideal gases; general one-dimensional wave motion; isentropic flow with area change; normal shock waves; oblique shock waves; Prandtl-Meyer expansion waves; flow with friction (Fanno flow) and heat transfer (Rayleigh flow).
- 550. INDUSTRIAL NOISE AND VIBRATION CONTROL (3). Pr., EGR 235, ME 296. Sources of industrial noise; criteria for control; noise and vibration measuring instrumentation; issues involved in the design of machinery for minimum noise and vibration.
- 552. ENVIRONMENTAL NOISE CONTROL (3). Pr., EGR 235, ME 296. Definitions of noise and community noise descriptors. Sources of community noise: aircraft, vehicles and industry. Noise reduction at the source and in the community. Community reaction to noise. Noise ordinances: local, state, federal and international. Noise regulations.
- 556. DESIGNING WITH FINITE ELEMENT ANALYSIS (3). Pr., ME 230. The finite element technique is applied to the design of mechanical systems. Applications include mechanical components, discrete systems, such as trusses, and continuous systems.
- 557. DESIGN FOR THERMAL STRESSES (3). Pr., ME 480. Analysis and design of mechanical systems subjected to thermal loads.
- 560. MECHANICAL VIBRATION (4). LEC. 3, LAB. 3. Pr., EGR 235, ME 296, MH 362. Dynamics behavior of mechanical systems. Free and forced vibration of single and multi-degree of freedom systems. Matrix methods of analysis.
- 562. MODAL ANALYSIS IN DESIGN APPLICATIONS (4). LEC. 3, LAB. 3. Pr., EGR 235, ME 296, MH 362. Design and modification of mechanical systems for which vibration is a major concern. Emphasis on practical significance of results from modal analysis.
- 564. DYNAMICS OF PHYSICAL SYSTEMS (3). Pr., EGR 235, ME 340, MH 362. Modelling of lumped systems; response of first and second order systems; frequency response techniques; stability and control.
- AUTOMATIC CONTROLS (3). Pr., ME 341, 370. Control systems fundamentals. System analysis techniques. Applications to machine and process control.
- 566L. AUTOMATIC CONTROLS LABORATORY (1). LAB. 3. Pr., EE 301, 303, ME 566 (or concurrent), Application of control systems fundamentals. Experiments involving open- and closed-loop control systems.

### Military Science

- 575. COMPUTER AIDED MECHANICAL SYSTEM DESIGN (3). Pr., ME 370 and senior standing. Principles of kinematics, dyamics and numerical methods of analysis. Computer-aided response of simple and complex dynamic systems.
- INTRODUCTION TO OPTIMAL SYSTEMS (3). Pr., senior standing. Application of optimal criteria to engineering problems.
- DIRECTED READING IN MECHANICAL ENGINEERING (CREDIT TO BE ARRANGED). Pr., senior standing. Areas of current interest within mechanical engineering.
- INDIVIDUAL STUDY (CREDIT TO BE ARRANGED). Pr., senior standing. Individual study under the quidance of a faculty member.

### Military Science (MS)

Professor Webb, Head Assistant Professors Horton, Mejias, Moore and Walker

# GENERAL MILITARY COURSE

(Basic Program) Military Science I

- THE U.S. ARMY TODAY (1). LEC, LAB. Overview of the United States Army and its role in American society. Lab provides practical experience in military training, leadership and rappelling.
- 102. CONTEMPORARY MILITARY ISSUES (1). LEC, LAB. An opportunity for students to research, analyze and discuss current issues involving the military. Lab provides practical experience in military training and leadership.
- 103. MODERN MILITARY WEAPONS AND OPERATIONS (1). LEC, LAB. In-depth instruction in the use of military weapons, tactics and operations by the United States Army and its allies. Lab provides practical experience in military training and leadership.

### Military Science II

- 201. DEVELOPMENT OF FUTURE U.S. ARMY OFFICERS (1), LEC., LAB. Introduction to the skills and knowledge necessary to be a successful U.S. Army officer. Focuses on the military information briefing and first aid tasks that soldiers and leaders must be prepared to encounter in training and on the battlefield.
- SMALL UNIT OPERATIONS (1). LEC., LAB. Introduction to organization, purpose and missions of a U.S. Army infantry squad. Focuses on the individual soldier and the squad leader's skills.
- SMALL UNIT LEADERSHIP (1). LEC, LAB. Introduction to the principles of leadership and the role of the squad leader in a tactical situation.

# (Advanced Program)

### Military Science III

- LAND NAVIGATION TECHNIQUES (3). LEC. 3, LAB. Detailed map reading instruction. Includes a
  day and night land navigation practical exercise conducted at Ft. Benning, Ga.
- 302. MILITARY TRAINING AND INSTRUCTION (3). LEC. 3, LAB. Introduction to the U.S. Army's Training Management System. Applied practical exercises in planning, coordinating, and executing military training. Conduct of a live-fire M16A1 rifle practical exercise at Ft. Benning, Ga.
- 303. MILITARY QUALIFICATION SKILLS (3). LEC. 3, LAB. Hands-on military training in basic skills common to all junior officers. Culminates with a weekend practical skills application exercise at Ft. Benning, Ga.
- 305. RANGER OPERATIONS AND TACTICS (2). LAB 2. Basic Ranger Operations to include patrolling, airmobile operations, mountaineering, light infantry weapons, and land navigation. Frequent field training exercises will be conducted (at least one per quarter).

### Military Science IV

- MILITARY JUSTICE AND ETHICS (3), LEC. 3, LAB. Introduction to the Military Justice System and the military ethic.
- TRAINING MANAGEMENT (3). LEC. 3, LAB. Intermediate instruction in the principles and techniques for planning, conducting and evaluating training.
- 403. ADVANCED TRAINING MANAGEMENT II (3). LEC. 3, LAB. Comprehensive instruction in the principles of collective training and training management.
- 404. LEADERSHIP LAB (0). LAB. 2. Required for advanced ROTC cadets not enrolled in ROTC courses during a quarter due to leave of absence or completion of all commissioning requirements.

## Music (MU)

Professors C. Gossett, Moore, Smith, Vinson, Faust and Greeleaf Associate Professors Stephenson, Head, Alexander, Garrison, Howard, Knipschild, Morgan, Summerville and Wylie

Assistant Professors Byrne, Goldstein, Kelley, Park, Patrick and Pickett Instructor S. Gossett and Thomas

- (T) indicates courses taught primarily for music education students.
- SOPHOMORE COMPREHENSIVE EXAMINATION (0). Pr., MU 232. Evaluation of overall musical progress at the end of the sophomore year in written and oral form.
- SENIOR PROJECT (0). Demonstration of professional level of achievement in the student's given major area.
- 100. PERFORMANCE ATTENDANCE (0). Required of all music students each quarter. Performance and lectures by faculty, guest artists and students. Music and music education majors are expected to perform at the teacher's discretion and in accordance with departmental rules.
- 131-132-133. MATERIALS AND ORGANIZATION OF MUSIC (5-5-5). A systematic study of harmony, counterpoint, form and style through the literature of music.
- 154-155-156. MUSIC COMPOSITION (1-1-1). Pr., concurrent enrollment in MU 131-132-133. The creative use of basic constructional materials in structured contexts.
- 201-202-203. JAZZ PIANO (1-1-1). Idiomatic harmonic and melodic exercises and their application to the jazz literature, including standard tunes and improvizational situations.
- 204-205-206T. FUNCTIONAL PIANO (1-1-1). Pr., MUA 184/187. Development of functional piano skills for use in classroom, rehearsal or studio. Open to music education majors only.
- 211-212. SERVICE PLAYING (1). Hymn playing, modulation, selected anthems and oratorio selections, simple improvisation and transposition.
- 231-232-233. MATERIALS & ORGANIZATION OF MUSIC (5-5-5). Pr., MU 133. Continuation of harmony, counterpoint, form and style in music.
- 251-252-253. SURVEY OF MUSIC LITERATURE (1-1-1). LEC. AND LAB. 3-3-3. Presentation of instrumental solo, opera and symphonic music, acquainting the student with musical compositions and composers with emphasis on music literature of the past three centuries.
- 254-255-256: MUSIC COMPOSITION (1-1-1). Pr., concurrent enrollment in MU 231-232-233. The creative use of developmental material and sections of standard forms in structured contexts.
- INTRODUCTION TO ELECTRONIC MUSIC (3), Pr., departmental approval. An introduction to the literature of and study of the basic production techniques of electronic music.
- 311. LITURGIES (3). Liturgical worship service of Roman Catholic and Protestant churches, plus non-liturgical forms of other Protestant denominations.
- 312 HYMNOLOGY (3). The musical significance of hymns of the Christian church from the earliest times to the present.
- 331-332-333. MATERIALS AND ORGANIZATION OF MUSIC (3-3-3). Pr., MU 233. Continuation of second year systematic study of harmony, counterpoint, form and style through the literature of music.
- 334-335-336. MUSIC COMPOSITION I, JI, III (1-1-1). Pr., MU 233. Creative experience of various techniques in smaller design and apparatus.
- 337-338-339. MODERN HARMONY I, II, III (3-3-3), Pr., MU 233, 20th century harmonic devices. An integrated approach to understanding contemporary writing with emphasis on original work and analysis of the principal departments from "traditional" harmony.
- 341-342-343. JAZZ, IN THEORY AND PRACTICE (3-3-3). Pr., MU 233 or departmental approval. The application of traditional theoretical concepts and skills to the jazz literature.
- 344-345-346. JAZZ REPERTOIRE (3-3-3). Pr., MU 203. Harmonic and formal analysis of standard jazz literature, with emphasis on reharmonization and variation, leading to development of a professional level repertoire.
- 351-352-353. MUSIC HISTORY I, II, III (3-3-3). Pr., MU 133. Development of music from early times to the present day. Lectures, recorded examples, readings.
- 361-362-363. CONDUCTING I, II, III (2-2-2). Pr., MU 133. (I). Basic conducting technique and introduction to score reading. (II). Advanced conducting technique, score reading, and interpretation with specialization in either choral or instrumental areas. (III). Advanced conducting techniques and score reading with opportunity for practical experience in preparing choral groups and instrumental groups for performance.
- 371. INTRODUCTION TO MUSIC (3). Open to Elementary Education and Family and Child Development Majors only. The understanding of music including an explanation of basic terms, notations, rhythm, tonal system, vocal and piano score readings.
- 409T.MARCHING BAND TECHNIQUES (3). Fundamental methods and procedures of the marching band.

- 410T.ORCHESTRAL TECHNIQUES (3). Pr., junior standing. Methods and procedures of rehearsing the orchestra in areas of articulation, tone production, blend, balance, intonation, and musical expression.
- 411T.CHORAL TECHNIQUES (3). Pr., junior standing. Methods and procedures of rehearsing choral groups in areas of diction, tone production, blend, balance, intenation and musical expression.
- 414. CARE AND REPAIR OF MUSICAL INTRUMENTS (1), LEC. 1, LAB. 3. Pr., senior standing. Selection, care and repair of woodwind, brass and string instruments with emphasis on adjustments which should be made by the instrumental director.
- 415. ORGAN LITERATURE AND DESIGN (3). Survey of organ literature correlating the forms of compositions and types of organs for which the music was written.
- 416. CHURCH MUSIC SEMINAR (3). Pr., MU 311, 312, 361, 362, 415, or 422, or departmental approval. The processes of establishing a complete church music program. Supervised directing of choral ensemble.
- 434-435-436. MUSIC COMPOSITION I, II, III (3-3-3). Pr., 233. Analysis, study and writing of musical compositions in small, compound and larger musical forms with emphasis on both stylistic and individual creative writing.
- 437-438-439. JAZZ IMPROVISATION (3-3-3). Pr., MU 346. Practical, supervised performing experiences, with opportunity for practical experience with university and professional ensembles.
- 442T.VOCAL PEDAGOGY (3). For prospective voice teachers. An intensive study of the materials and methods of voice training. Classification and analysis of teaching repertoire.
- 443T.STRING PEDAGOGY (3). Mechanics of stringed instruments. Teaching methods, schools, and systems. Teaching literature and repertoire. For either violin, viola, cello, string bass or harp.
- 444T.INSTRUMENTAL PEDAGOGY (3). Mechanics of brass or woodwind instruments. Teaching methods and repertoire with emphasis on solo instrumental literature.
- 445. THEORY PEDAGOGY (3). Required of seniors majoring in theory and composition. Presents the problems of sightsinging, rhythmic dictation, melodic and harmonic dictation, and part writing from a pedagogical viewpoint.
- 447-448-449. PIANO PEDAGOGY (3-3-3). For prospective piano teachers. Teaching methods for beginners in private and group instruction. The intermediate and advanced student. Analysis of teaching repertory. Observation and practical experience.
- VOCAL LITERATURE (3). Pr., junior standing. Vocal literature from Elizabethan time to the present, including representative European and American repertoire.
- 454. INSTRUMENTAL LITERATURE (3). Pr., junior standing. Literature of the major performance area.
- OPERA LITERATURE (3). Pr., junior standing. Vocal music of the opera from the Baroque to the present.
- 457-458-459. KEYBOARD LITERATURE (1-1-1). Pr., junior standing. Masterwork for keyboard from the Baroque Period to the present. Restricted to piano pedagogy majors only.
- 461. ANALAYSIS OF JAZZ MASTERWORKS (3). Pr., MU 346. Recorded performances by important performers and composers, including compositional and stylistic analysis and the transcription of improvisational solos.
- 462-463. JAZZ COMPOSING AND ARRANGING (3-3). Pr., MU 346. Emphasis on original work, and the arranging of existing material for large and combo instrumental ensembles and for vocal ensembles.
- 471-472-473. PIANO SKILLS AND TEAM TEACHING (PRACTICUM) (2). Discussion of piano skills as they are taught through student literature. Supervised individual, and team teaching and observation of identified excellent teachers of pre-college students.
- INSTRUMENTAL ARRANGING (3). Pr., MU 233 or departmental approval. Project course in arranging various instrumental combinations from quartet to symphonic band.
- CHORAL ARRANGING (3). Pr., MU 233 or departmental approval. Project course in arranging for various combinations.

- 522-523-524. THEORY REVIEW (3-3-3). No credit for Performance, Composition or Pedagogy majors. Harmonic techniques of the 18th and 19th centuries, with emphasis on style and design.
- 537-538-539. ORCHESTRATION I, II, III (3-3-3). Pr., MU 233. Ranges, notation, and characteristics of orchestral instruments. Exercises in arranging for combinations of string and wind instruments. Theory and practice of orchestration for full orchestra.
- 553. CHORAL LITERATURE (3). Pr., junior standing. Chronological study of choral music from the Middle Ages to the present including opera, and oratorio with detailed examination of representative works.
- 554. HISTORY AND LITERATURE OF THE WIND BAND (3). Pr., junior standing. History of development of the wind band and its literature from ca. 1500 to the present.

#### GENERAL ELECTIVE COURSES

- FUNDAMENTALS OF MUSIC (3). Music primarily to develop functional piano skills, sight-reading, rhythm and melodic skills, and the basics of musical construction (scales, internals, keys, and triads).
- 172. HONORS MUSIC (3). The art music and folk music of various western and non-western cultures with emphasis on the cultural, social and economic environment affecting the composers' artistic decisions. (Honors Program).
- HISTORY OF JAZZ (3). Growth of Jazz from its African and European roots to current experimentation.
- 373. APPRECIATION OF MUSIC (3). May not be taken for credit by Music majors. Outstanding composers and compositions. No previous music training required; an orientation in the art of listening.

#### GROUP PERFORMANCE COURSES

- 121-122-123. UNIVERSITY SINGERS (1 HOUR CREDIT PER QUARTER). May be taken with or without credit. A select choral ensemble for study and performance of madrigals, pop music, show tunes, and choral music of the jazz idiom. Open to any Auburn student by audition only.
- 124-125-126. CONCERT BAND (1 HOUR CREDIT PER QUARTER). Members of the Band are selected during the first week of each quarter. A minimum of four rehearsal hours per week is required, with extra rehearsals scheduled as necessary. Band members are required to be present at all rehearsals and all public performances. Students enrolled in Concert Band will have the drill portion of Basic Military Training waived. (May be taken with or without credit.)
- 127-128-129. ORCHESTRA (1 HOUR CREDIT PER QUARTER). Members of the symphonic orchestra are selected by try-outs during the first week of each quarter. (May be taken with or without credit.)
- 134. JAZZ LABORATORY BAND (1). A musical ensemble for the study and performance of music relating to the jazz idiom. By audition only.
- 141-142-143. GOSPEL CHOIR (1-1-1). Open to any Auburn student by consent of director. (May be taken with or without credit.)
- 218-219-220. WOMEN'S CHORUS (1-1-1). Open to any Auburn female student by consent of choral director. (May be taken with or without credit.)
- 221-222-223. MEN'S CHORUS (1-1-1). Open to any male Auburn student by consent of choral director. (May be taken with or without credit.)
- 224. MARCHING BAND (1 HOUR CREDIT PER QUARTER). Fall. Provides music for athletic contests and half-time shows at football games, various parades, pep rallies and other campus and off-campus events. During the fall quarter, will rehearse a minimum of six hours per week. Physical Education may be waived for marching band members. Also, students will have the drill portion of basic military waived when enrolled in Marching Band. See band director for details. (May be taken with or without credit.)
- 227. OPERATIC STAGE TECHNIQUE (1 HOUR CREDIT PER QUARTER). Pr., sophomore standing and departmental approval. Theory and practice of character development through movement and improvisation as they apply to the demands of the musical/operatic stage.
- 228-229. OPERA WORKSHOP (1 HOUR CREDIT PER QUARTER). Pr., MU 227. Open to all students interested in opera, including performance, stage-craft, make-up, conducting and coaching. A minimum of three hours per week rehearsal or stage-craft is required with extra time scheduled as necessary. (May be taken with or without credit.)
- 321-322-323. CONCERT CHOIR (1 HOUR CREDIT PER QUARTER). Concert choir is a mixed chorus for study and performance of serious choral literature; open to any Auburn student by audition only. (May be taken with or without credit.)
- 324-325-326. MUSIC ENSEMBLE (1 HOUR CREDIT PER QUARTER). departmental approval. Primarily for advanced musicians for the study and performance of musical compositions for small instrumental and vocal groups. A minimum rehearsal of three hours per week required. (May be taken with or without credit.) Includes brass, woodwind, percussion, vocal and piano ensembles.
- PIANO ENSEMBLE (1 HOUR CREDIT PER QUARTER). Study through performance of the ensemble literature for keyboard. May be repeated for credit.
- 347-348-349. VOCAL CHAMBER MUSIC (1 HOUR CREDIT PER QUARTER). Primarily for vocal performance and choral music education majors of junior standing and above. Others may be accepted by audition or departmental approval. Preference will be given to voice type needed. Preparation for performance of solo ensemble literature duets, trios, quartets, quintets, sextets, etc. In addition to piano accompaniment, other instrumentation may be employed as called for in the particular composition. At such times, credit may also be given to instrumentalists.
- 424-425-426. MUSIC ENSEMBLE (1). Pr., departmental approval. Primarily for advanced musicians for the study and performance of musical compositions for small instrumental and vocal groups. A minimum rehearsal of three hours per week required. (May be taken with or without credit). Includes brass, woodwind, percussion, and piano ensembles

#### PERFORMANCE

Individual instruction is available in voice, piano, organ, strings, woodwinds, harp, brass, guitar and percussion. One 1-hour lesson or two half-hour lessons per week. Students desiring study in performance must be approved by the head of the Department of Music before entrance into the course.

- 080. PERFORMANCE (0). May be repeated. Individual instruction in instrumental or vocal areas. Rudimentary practice as related to each discipline.
- PERFORMANCE (3). Individual instruction in instrumental or vocal areas for performance, church music majors only. May be repeated.
- PERFORMANCE (1). Individual instruction in instrumental or vocal areas. For piano pedagogy, theory/composition, bachelor of arts majors, and music education minors. May be repeated.
- PERFORMANCE (1). Individual instruction in instrumental or vocal areas. For students in elementary and secondary education, and performance minors and electives. May be repeated.
- PERFORMANCE (3). Pr., six quaters of MUA 181. Individual instruction in instrumental or vocal areas. Performance and Church majors only. May be repeated.
- 384. PERFORMANCE (1). Pr., six quarters of MUA 184. Individual instruction in instrumental or vocal areas. For piano pedagogy, theory/composition, bachelor of arts majors, and music education minors. May be repeated.
- PERFORMANCE (1). Pr., six quarters of MUA 187. Individual instruction in instrumental or vocal areas. For students in elementary and secondary education and performance minors and electives. May be repeated.
- 660. PERFORMANCE (3-3-3).

The amount of credit in Performance study is based on the following practice schedule:

1 cr. hr. - 5 hours weekly practice.

3 cr. hrs. - 15 hours weekly practice.

Individual instruction Fees Per Course (Per Quarter) ... \$66.00

This additional fee to be paid at the time of registering for each Performance Course of individual instruction. Instruction is available in one hour or two half-hour lessons per week.

#### CLASS INSTRUCTION IN PERFORMANCE

The Music Department offers a number of classes in Performance open to Music Majors and Minors and to regularly registered college students who have had previous music training. These classes meet two hours per week and carry one hour credit.

- 101-102-103T. GUITAR CLASS (1-1-1). (2-2-2 LEC. AND LAB.). Class instruction and practice in the rudiments of music as applied to the guitar.
- 104-105-106. PIANO CLASS (1-1-1), (2-2-2 LEC. AND LAB.): Class instruction and practice in the rudiments of music as applied to piano playing.
- 107-108-109. VOICE CLASS (1-1-1). (2-2-2 LEC. AND LAB.), Class instruction and practice in the rudiments of music as applied to voice.
- 110-111-112T. STRING INSTRUMENTS CLASS (1-1-1), (2-2-2 LEC. AND LAB.), Class instruction and practice in the rudiments of music as applied to violin, viola, cello and contrabrass playing.
- 113-114-115T. BRASS INSTRUMENTS CLASS (1-1-1). (2-2-2 LEC. AND LAB.). Class instruction and practice in the rudiments of music as applied to trumpet, trombone and other brass instruments.
- 116-117-118T. WOODWIND INSTRUMENTS CLASS (1-1-1). (2-2-2 LEC. AND LAB.). Class instruction and practice in the rudiments of music as applied to clarinet, oboe, bassoon, flute and other woodwind instruments.
- 119T. PERCUSSION INSTRUMENTS CLASS (1). (2 LAB.). Class instruction and practice in the rudiments of music as applied to playing the snare drum.
- 120T. ADVANCED PERCUSSION INSTRUMENTS CLASS (1), LEC. 2, LAB. Pr., MU 119T or departmental approval. Class instruction and practice in the rudiments of music as applied to playing timpani, the keyboard mallet instruments and the other miscellaneous percussion instruments.

#### Naval Science (NS)

Professor Ellis, Head Associate Professor Maurer

Assistant Professors Daves, Davis, Engle, Harley, Hilliard, Thompson and Wright

111. INTRODUCTION TO NAVAL SCIENCE (1). LEC. 3, LAB. 2. Fall. Basic areas of naval science including such subjects as uniforms and insignia, military courtesy, discipline, components and supporting elements of the Navy.

- 112-113. NAVAL SHIPS SYSTEMS I-II (2-2). LEC. 2, LAB. 2. I Winter, II Spring. Principles of ship design, construction and stability. Study of impaired stability and damage control. Shipboard auxiliary systems, basic electricity, introduction to thermodynamics and steam cycle as applied to naval propulsion systems. Advanced propulsion and ship design including nuclear and gas turbine engines.
- 211-212. NAVAL WEAPONS I-II (2-2). LEC. 3, LAB. 2, I Fall, II Winter. Weapons systems through a study of fundamental principles of sensor, tracking, computational, and weapons delivery subsystems in addition to the practical application of various systems.
- 213. SEAPOWER AND MARITIME AFFAIRS (2). LEC. 3, LAB. 2. Spring. A survey course dealing with broad principles, concepts and elements of naval history, seapower and maritime affairs with application to the United States and other world powers.
- 311-312. NAVIGATION I & II (3-3), LEC. 4, LAB. 2. I Fall, II Winter. Theory and principles of piloting involving the use of visual and electronic aids. The theory, principles, and procedures of celestial navigation.
- NAVAL OPERATIONS (3). LEC. 4, LAB. 2. Spring. Navy tactical formations and dispositions, relative motion, Rules of the Road, maneuvering board and communications.
- 321-322-323. EVOLUTION OF WARFARE (3-3-3), LEC. 3, LAB. 2. Fall, Winter, Spring. Forms of warfare practices to identify historical continuity and change in the evolution of warfare. Demonstrates concepts of strategy; examines great captains and military organizations of history to discover ingredients of their success. Explores the impact of historical precedent, economic factors and technological change on politico-military thought and action.
- 411-412-413. PRINCIPLES OF NAVAL LEADERSHIP AND MANAGEMENT: (3-3-3). LEC. 3, LAB. 2. Fall, Winter, Spring. Various tools and methods of leadership. The Uniform Code of Military Justice from the division officer's perspective. Naval personnel administration, material management and correspondence.
- 421-422-423. AMPHIBIOUS WARFARE (3-3-3). LEC. 3, LAB. 2. Fall, Winter, Spring. Amphibious warfare prior to WWII through Grenada; definitions of concept, examination of doctrinal origins, evolution of amphibious warfare tactics and techniques, and the current structure of the Fleet Marine Force and its equipment.

# Nursing (NUR)

Professors Kitchens and Brower Associate Professor Pitts

Assistant Professors Ellison, Hamner, Hendricks, Huffstutler, Martin and Stevenson Instructors Hackett, Lambert, Mullins, Widell and Wilder

- 101. ORIENTATION TO NURSING (2). Fall. An introduction to the discipline of nursing.
- INTRODUCTION TO STATISTICS (3), LEC. 2, LAB. 2. Pr., MH 160. Introductory skills in descriptive
  and inferential statistics required for reading and applying nursing research.
- 302. DIMENSIONS OF PROFESSIONAL NURSING (2). Pr., admission to the Professional Nursing Program, Fall, Conceptual and theoretical foundations for nursing are present. Introduces the concept of professionalism as essential to the discipline of nursing.
- 303. HEALTH ASSESSMENT ACROSS THE LIFE SPAN (4), LEC. 3, LAB. 2. Fall. Pr., admission to the Professional Nursing Program. Prepares students to perform comprehensive health assessment on individuals across the life span.
- 310. NURSING CONCEPTS I (8). LEC. 4, LAB. 8. Pr., admission to the Professional Nursing Program. Fall. Concepts and theories basic to the art and science of nursing. Emphasizes the nursing process as the basis for nursing decision-making.
- 311. NURSING CONCEPTS II (12). LEC. 5, LAB. 14, Pr., NUR 302, 303, 310, ZY 440. Winter. Concepts, theories and clinical experiences related to assisting individuals and families to adapt to selected health alterations across the life span.
- 312. NURS(NG CONCEPTS III (12). LEC. 5, LAB. 14. Pr., NUR 311, ZY 441. Spring and Summer. Continuation of concepts, theories and clinical experiences related to assisting individuals and families to adapt to selected health alterations across the life span.
- 313. PSYCHIATRIC/MENTAL HEALTH NURSING (7). LEC, 3, LAB. 8. Pr., NUR 311, ZY 441. Spring and Summer. Emphasizes nursing interventions to facilitate successful psychosocial adaptations for individuals and groups. Stressors that result in psychosocial impairments are examined.
- 391. CONTEMPORARY WOMEN'S HEALTH ISSUES (3). Pr., sophomore standing or above. Explores common health stressors and contemporary health issues for women across the lifespan.
- 392. PROMOTING HEALTHY LIFESTYLES ACROSS THE LIFESPAN (3). Pr., sophomore standing or above. Health promoting and illness preventing lifestyle behaviors for ind viduals across the lifespan. Includes historical, political, economic and cultural factors influencing health.

- 393. THE ART OF CARING (3), Pr., NUR 302, 310. Builds upon existing knowledge of the delivery of health care. Addresses philosophical, social and ethical principles in the practice of professional nursing. Emphasis is on the concept of caring as a guide for clinical practice.
- 395. NURSING MANAGEMENT OF PHARMACOLOGIC THERAPY IN CLIENT SYSTEMS (3). Pr., successful completion of ZY 440, 441, NUR 310. Coreq., NUR 311 or 412. Interdependent role functions in the nursing management of clients receiving drug therapy. Concepts in primary, secondary and tertiary prevention are discussed as they relate to effects of pharmacologic agents on body systems.
- 396. HUMAN SEXUALITY IN HEALTH AND ILLNESS (3). Pr., junior standing, open to all University students. Human sexuality in relation to the health continuum. Opportunity to view sexuality across the life span.
- 401. TRANSITION INTO PROFESSIONAL NURSING (4). LEC. 4, LAB. 4. Pr., acceptance into the EARN Program. Summer. Concepts and theoretical formulations that underlie professional nursing practice.
- 401L TRANSITION INTO NURSING PRACTICE (2). Pr., admission to EARN Program. Coreq., ZY 445 and NUR 401. Provides registered nurse students with opportunities to apply concepts and theoretical formulations of professional nursing practice in clinical settings.
- 410. BASIC CONCEPTS IN PRIMARY, SECONDARY AND TERTIARY PREVENTION (4). Pr., admission to AND Program. Coreq., NUR 302, 303, 410L, ZY 445. Concepts and theoretical formulations that underlie primary, secondary and tertiary prevention in client systems. Emphasizes nursing process as a framework for exploring the impact of physiological, psychological, sociocultural, spiritual and developmental variables on client system stability using a lifespan approach.
- 410L PROFESSIONAL PRACTICE I (4). Pr., admission to AND Program, Coreq., NUR 410. Provides clinical learning opportunities to implement selected riursing roles with individuals and families in various clinical settings. Focuses on the nursing process as a systematic approach to health promotion and maintenance.
- 411. PRIMARY, SECONDARY AND TERTIARY PREVENTION IN CLIENT SYSTEMS I (6). Pr., NUR 410, 410L Coreq., NUR 395, 411L. Introduces the use of the nursing process in analyzing physiological, psychological, sociocultural, developmental and spiritual variables relevant to secondary and tertiary prevention of health alterations in selected body systems using a lifespan approach.
- 411L PROFESSIONAL PRACTICE II (8). Pr., NUR 410, 410L. Coreq., NUR 395, 411. Provides clinical learning opportunities to plan, implement and evaluate secondary and tertiary prevention activities with clients of different cultures and at various stages of lifespan development in selected clinical settings.
- 412. PRIMARY, SECONDARY AND TERTIARY PREVENTION IN CLIENT SYSTEMS II (6), Pr., NUR 395, 411, 411L. Coreq., NUR 412L. Continues clinical learning opportunities to plan, implement and evaluate secondary and tertiary prevention learning activities with clients of different cultures and at various stages of lifespan development in selected clinical settings.
- 412L.PROFESSIONAL PRACTICE (II (8). Pr., NUR 395, 411, 411L. Coreq., NUR 412. Continues clinical learning opportunities to plan, implement and evaluate secondary and tertiary prevention learning activities with clients of different cultures and at various stages of lifespan development in selected clinical settings.
- 420. ADVANCED CONCEPTS IN PRIMARY, SECONDARY AND TERTIARY PREVENTION (6). Pr., NUR 412, 412L. Coreq., NUR 420L. Advanced concepts and theoretical formulations related to primary, secondary and tertiary prevention of complex, multi-dimensional health alterations in individuals and groups at various stages of development.
- 420L.PROFESSIONAL PRACTICE IV (8). Pr., NUR 412, 412L. Coreq., 420. Provides clinical learning opportunities to practice primary, secondary and tertiary prevention with individuals and groups experiencing complex, multi-dimensional health alterations using a lifespan approach.
- PRIMARY PREVENTION IN CLIENT/FAMILY SYSTEMS (3). Pr., NUR 303, 401, 401L, ZY 445.
   Coreq., NUR 421L. Concepts and theoretical formulations that underlie primary prevention with client/family systems.
- 421L PRIMARY PREVENTION IN CLIENT/FAMILY SYSTEMS LAB (3). Pr., NUR 303, 401, 401L, ZY 445. Coreq., NUR 421. Provides clinical learning experience in primary health care settings to implement nursing roles in primary prevention for client/family systems.
- 422. FAMILY AND COMMUNITY HEALTH NURSING (12). LEC. 4, LAB. 16. Pr., successful completion of junior-level nursing courses. Fall, Winter. Emphasizes health promotion and maintenance, illness care and rehabilitation of families and groups in community settings.
- 423. PRIMARY, SECONDARY AND TERTIARY PREVENTION IN COMMUNITY SYSTEMS (3). Pr., NUR 421, 421L. Coreq., NUR 423L. Advanced concepts and theoretical formulations that underlie the nurse's role in primary, secondary and tertiary prevention in community settings.
- 423L PRIMARY, SECONDARY AND TERTIARY PREVENTION IN COMMUNITY SYSTEMS LAB (3). Pr., NUR 421, 421L. Coreq., NUR 423. Provides clinical learning opportunities to practice primary, secondary and tertiary prevention with individuals and groups in community settings.

- 425. PRIMARY, SECONDARY AND TERTIARY PREVENTION IN ACUTE CARE SETTINGS (4), Pr., NUR 401, 401L. Coreq., NUR 425L. Concepts and theoretical formulations that underlie the nurse's role in primary, secondary and tertiary prevention of complex health alterations of client/family systems in acute care settings.
- 425L.PRIMARY, SECONDARY AND TERTIARY PREVENTION IN ACUTE CARE SETTINGS LAB (5). Pr., NUR 401, 401L. Coreq., NUR 425. Provides clinical learning opportunities to plan, implement and evaluate primary, secondary and tertiary prevention activities with clients/families in acute care settings.
- 427. PRIMARY, SECONDARY AND TERTIARY PREVENTION APPLIED TO REHABILITATION AND HOME HEALTH CARE (4), Pr., NUR 425, 425L. Coreq., NUR 427L. Concepts that underlie the nurse's role in prevention of complex health alterations of client/family systems in rehabilitation and home health settings.
- 427L.PRIMARY, SECONDARY AND TERTIARY PREVENTION APPLIED TO REHABILITATION AND HOME HEALTH CARE LAB (5), Pr., NUR 425, 425L. Coreq., NUR 427. Provides clinical opportunities to plan, implement and evaluate primary, secondary and tertiary prevention activities with clients/ families in rehabilitation and home health settings.
- EARN PRACTICUM (9). Pr., NUR 427, 427L. 436. Coreq., NUR 450, 475, 475L. Provides upportunities to implement new skills and integrate knowledge and values learned in the program into nursing practice.
- 432. NURSING RESEARCH (3). Pr., successful completion of junior-level nursing courses. Fall. Explores the research process as a systematic means for contributing to nursing knowledge. Emphasis is on the use of research knowledge in providing nursing care for individuals, families and groups.
- INFORMATION MANAGEMENT IN NURSING (3). LEC. 2, LAB. 2, Pr., NUR 311. Winter, Spring.
  Theory and practice related to information management systems and their applicability to health care
  delivery and research.
- 436. NURSING RESEARCH AND DATA MANAGEMENT (3). Pr., AND-NUR 395, 411, 411L; EARN-NUR 401, 401L. Prepares students to critique research for applicability to nursing practice. Includes all components of the research process and emphasizes the importance of research as systematic means for refining and extending nursing knowledge. Incorporates computer technology.
- 450. SENIOR SEMINAR (3). Pr., NUR 422, 427, 427L, 432, 435, 436-EARN, 460, 495. Coreq., NUR 429, 475 and 475L-EARN. Spring. Emphasizes role socialization essential for entry to the practice of professional nursing. Issues and stressors in professional practice.
- 460. NURSING CONCEPTS IV (12). LEC. 4, LAB. 16. Pr. Successful completion of junior-level courses. Fall, Winter. Promotes a holistic approach to the care of clients experiencing multisystem stress as a result of crisis across the life span. Focus on the clinical roles and responsibilities of the professional nurse in selected specialty areas.
- HONORS THESIS (1-6). Open to persons in the University Honors Program and with consent of the student's Honors advisor.
- 475. LEADERSHIP/MANAGEMENT AND INFORMATION SYSTEMS IN NURSING (3). Pr., AND–NUR 412, 412L, 436; EARN–NUR 401, 401L, 436. Coreq., NUR 475L. Provides theoretical foundation for implementation of the leadership/management role of the professional nurse in health care organizations, Emphasizes application of theoretical formulations from nursing and related disciplines to management of information nursing systems in a rapidly changing, technological environment.
- 475L,INFORMATION SYSTEMS LAB (1), Pr., AND-NUR 412, 412L, 436; EARN-NUR 401, 401L, 436. Coreq., NUR 475. Provides laboratory opportunities to apply selected database and spreadsheet computer programs to the nurse-manager role in simulated lab situations involving nursing systems.
- DIRECTED INDEPENDENT STUDY (1-6). Pr., NUR 310. May be repeated to a maximum of six hours credit. Directed readings and/or clinical study in student-selected areas related to nursing.
- SPECIAL STUDY IN MEDICAL/SURGICAL NURSING (3). Pr., completion of junior year. Allows students to gain additional experience in a selected medical/surgical specialty.
- AIDS: A SOCIAL EPIDEMIC (3), Pr., junior standing. Psychosocial, physical, ethical and legal aspects of AIDS.
- 495. MANAGEMENT IN NURSING (3). Pr., successful completion of junior-level courses. Fall. The leadership component of the professional nursing role is discussed. Concepts and theories related to leadership and management are presented for assimilation into practice.
- 497. PROFESSIONAL NURSING SEMINAR (4). Pr., NUR 420, 420L, 436, 475. 475L. Coreq., NUR 498. Provides opportunities to acquire in-depth knowledge of nursing and health care issues. Content and learning experiences facilitate socialization into the professional nursing generalist role. Serves as a forum for practicum experiences as they relate to societal forces, the health care system and the nursing profession.
- 498. AND PRACTICUM (14). Pr., NUR 420, 420L, 436, 475, 475L. Coreq., NUR 497. Preceptorship experiences which provide opportunities to synthesize nursing knowledge, values and skills in various nursing roles with a selected role model.

499. SENIOR PRACTICUM (15). LEC. 1, LAB. 28. Pr., NUR 422, 432, 435, 460, 495. Spring. Provides clinical learning opportunities which enable students to synthesize theoretical and empirical knowledge from nursing and the scientific and humanistic disciplines in preparation for assuming the professional nurse role.

### ADVANCED UNDERGRADUATE AND GRADUATE

501. PATHOPHYSIOLOGY OF CHRONIC ILLNESS AND DISABLING CONDITIONS IN YOUNG CHIL-DREN (3). For students pursuing careers in professions that serve children with chronic illnesses or disabling conditions. These conditions will be examined as to alterations in body systems, usual treatment and implications for the child.

## Nutrition and Food Science (NFS)

Professor Green, Head, and Keith

Associate Professors Clark, Craig-Schmidt, Crayton, Gropper, Kent and Struempler Assistant Professors Bell, Chesnutt, Fellers, Hill, Hubbard and Weese Instructor Dillard

- NUTRITION AND HEALTH (3). Principles of human nutrition and food choices related to the health of individuals.
- INTRODUCTORY FOOD SCIENCE AND TECHNOLOGY (3). Principles of major food processing
  methods, concepts of food quality, nutrition, sanitation, safety of food additives and food laws. Overview of careers in food science and food technology.
- 202. PRINCIPLES OF FOOD PREPARATION (5). LEC. 3, LAB. 4. Pr., CH 103 or BI 105. Basic chemical and biological principles underlying the fundamental processes and standards of food preparation.
- 206. FOOD AND HEALTH. (3). LEC. 2, LAB. 3. Selection and preparation of basic foods with an introduction to meal planning to meet daily nutritional needs and time-money budgetary constraints, Not open to majors in Nutrition and Food Science ( NFS, HRM) or Vocational Home Economics.
- 304. QUANTITY FOOD PREPARATION (5). LEG. 3, LAB. 4. Pr., junior standing and NFS 202. Principles of preparing and serving food in the institutional setting. Laboratory experience in university food services.
- SURVEY OF DIETETICS (2). LEC. 1, LAB. 3. Pr., junior standing. Role and professional conduct of dietitians in various institutions. Open to students in NFS (Plan V/Dietetics option) major.
- NUTRITIONAL BIOCHEMISTRY (4). Pr., CH 203. Chemistry of carbohydrates, fats, proteins, vitamins and minerals applied to human nutrition.
- 318L.NUTRITIONAL BIOCHEMISTRY LABORATORY (1). LAB. 3. Pr., CH 203. Coreq., NFS 318 for majors in NFS. Application of laboratory techniques and instrumentation in measuring nutrients in biological materials.
- FOOD PRESERVATION (3). LEC. 2, LAB. 3. Pr., NFS 202, MB 300 or departmental approval. Food spoilage mechanisms and their prevention.
- FUNDAMENTALS OF NUTRITION (3), Pr., CH 203, BI 101. Principles of human nutrition and factors influencing nutrient requirements.
- PRINCIPLES OF NORMAL NUTRITION I (5). LEC. 4, LAB. 2. Pr., NFS 318 or equivalent. Physiological and biochemical bases of nutrient needs of the healthy individual. Methods of assessing nutritional adequacy of the diet.
- 392. PRINCIPLES OF NORMAL NUTRITION II (5). LEC. 4, LAB. 2. Pr., NFS 382. Continuation of NFS 382.
- 408. INDEPENDENT OR FIELD STUDY (3-8). Laboratory or field experiences approved and supervised by a faculty member. May be repeated for a maximum of eight credit hours.
- SEMINAR IN NUTRITION AND FOOD SCIENCE (1). Pr., senior standing. Lectures, demonstrations
  and literature reviews by staff, students and guest lecturers.
- FOOD SERVICE ORGANIZATION AND MANAGEMENT (5). Pr., NFS 304, MN 310. Management principles, methods of control and personnel management related to quantity food service management.
- COMMUNITY NUTRITION (3). Pr., NFS 392. Assessment of community nutritional status and methods used to affect change.

#### ADVANCED UNDERGRADUATE AND GRADUATE

502. CLINICAL NUTRITION (5). LEC. 4, LAB. 2. Pr., NFS 392. Application of principles of nutrition and diet to the pathophysical and biochemical changes and biochemical changes associated with disease of selected organ systems.

- 538. STUDY/TRAVEL IN NUTRITION AND FOOD SCIENCE (2-8). May be repeated for up to 12 under-graduate credits or eight graduate credits. Pr., Human Sciences core and departmental approval. Concentrated study in NFS in U.S. or foreign locations which offer unique resources for investigation in one of these content areas. Lectures presented at prearranged points. Papers required on selected phases.
- 543. FOOD CHEMISTRY (5). LEC. 4, LAB. 2. Pr., NFS 318. Chemistry and changes occurring in food components during processing, storage and handling.
- 545. FOOD ANALYSIS AND QUALITY CONTROL (5). LEC. 3, LAB. 4. Pr. NFS 543 or equivalent. Sensory, chemical and instrumental food analysis and their application to quality assurance.
- 562. NUTRITION AND PHYSICAL PERFORMANCE (5). Pr., ZY 251, NFS 318 or equivalent and junior standing. Energy, carbohydrates, proteins, fluids, vitamins/minerals and nutrition ergogenic aids and how these relate to physical performance.
- 564. FOOD PRODUCT DEVELOPMENT (5), LEC, 3, LAB. 4. Pr., NFS 202, CH 203 or equivalent. Formulation of food products through variation of food components and processing procedures with subjective and objective evaluation.
- CLINICAL NUTRITION II (3). Pr., NFS 502. Continuation of application of principles of nutrition in treatment of disease.
- CONTINUOUS QUALITY IMPROVEMENT IN HOSPITALITY (3). Pr., HRM 460 or NFS 456. Principles and practices of continuous quality assurance and total quality management from a hospitality perspective.
- 577. FOOD PLANT SANITATION (4). LEC. 3, LAB. 2. Pr., MB 201 or 300 or departmental approval. Sanitary regulation and procedures for hazard control and quality assurance in the food industry.
- 578. NUTRITION AND FOOD SCIENCE IN SOCIETY (3). Pr., course in nutrition or food science. Current concepts in the social, cultural and psychological aspects of nutrition and lood science and related fields.
- 588. INTERNATIONAL NUTRITION AND FOOD SCIENCE (3). Pr., satisfactory course in nutrition and food science. Nutritional status of world population and local, national and international programs for improvement.
- 592. NUTRITION IN THE LIFE CYCLE (5). Pr., NFS 392 and junior standing. Metabolic and clinical approach to nutrition throughout the life cycle. Emphasis on groups for whom nutrition is more crucial.

# HOTEL AND RESTAURANT MANAGEMENT (HRM)

- 101. INTRODUCTION TO HOSPITALITY MANAGEMENT (2). Overview of the hotel, restaurant, club and travel fields and how their components interact.
- 320. HOSPITALITY FINANCIAL MANAGEMENT (4). Pr., AC 211. Financial systems and statements in the hospitality industry.
- HOSPITALITY LAW (4). Pr., HRM 101, MT 241 or 255. Laws and litigation that pertain to and impact the operation of hotels, restaurants and clubs.
- HOSPITALITY MARKETING (3), Pr., HRM 101, MT 331. Marketing techniques and issues applicable to the hotel and restaurant environments.
- RESTAURANT MANAGMENT (3). Pr., NFS 200, 202, HRM 320, 330, 340, MN 310. Managerial aspects of successful restaurant operations.
- 446. CATERING (3). LEC. 2, LAB. 3, Pr., NFS 304. Types of catered food service functions: planning, pricing, organization, management, equipment and service.
- HOTEL MANAGEMENT (4). Pr., HRM 320, MN 310. Management of the rooms division, food and beverage departments and other profit centers.
- 455. CLUB MANAGEMENT (3). Pr., HRM 410. Operational and career issues pertaining to the club environment.
- 460. ADVANCED SERVICE MANAGEMENT (4). Pr., HRM 101 and junior standing. Characteristics and needs of the premium service segment of the hospitality industry.
- ADVANCED RESTAURANT MANAGEMENT (3). LEC. 2, LAB. 3. Pr., HRM 410, 460. Concepts in premium service restaurant management.
- 480. ADVANCED BEVERAGE MANAGEMENT (3). Pr., HRM 410. Beverage management and control in commercial food service.
- 490. PROFESSIONAL INTERNSHIP IN HOSPITALITY MANAGEMENT (5). Pr., junior standing in HRM and approval of internship application which includes proof of having worked 400 hours in any position in the hospitality industry. Structured internship in the hospitality industry.

# Pharmacal Sciences (PY)

Professors Ravis, Head, Clark, Darling, DeRuiter, Doorenbos, Hamrick, Parsons and Riley Associate Professors Betageri and Smith

Assistant Professors Banga, Bronson, Kompella and Walters

- 301. PHARMACEUTICS I (3). LEC. 3. Coreq., PY 301L, 316. Physical-chemical principles are applied to develop an understanding of solid dosage forms and homogeneous liquid dosage forms. Selected official preparations are considered from this viewpoint.
- 301L.PHARMACEUTICS I LABORATORY (1). LAB. 3. Coreq., PY 301, Application of principles and techniques to preparation and usage of solid dosage forms including powders, tablets, capsules, and prolonged release types.
- 302. PHARMACEUTICS II (3). LEC. 3. Pr., PY 301, 301L, 316. Coreq., PY 302L. A continuation of PY 301 dealing with heterogeneous and plastic systems and the physical and chemical principles applicable to plastic and polyphasic dosage forms including suspensions, colloids, mixtures, ointments, creams, emulsions and lotions.
- 302L.PHARMACEUTICS II LABORATORY (1). LAB. 3. Pr., PY 301, PY 301L Coreq., PY 302. Application of principles and techniques to preparation and usage of liquid, heterogeneous and plastic dosage forms including solutions, syrups, elixirs, suspensions, emulsions, ointments, creams and lotions.
- 316. MODERN METHODS OF DRUG ANALYSIS (4), LEC. 3, LAB. 3. Pr., CH 518. Coreq., PY 301. Theory and application of physical and chemical methods with emphasis on the use of chromatography, instrumentation, and nonaqueous systems in the analysis of pharmaceutical products.
- 401. PHARMAGEUTICS III (4). LEC. 4. Pr., PY 302, 302L. Coreq., PY 420, 531. Influence of formulation on the therapeutic activity of a drug in a dosage form, emphasizing effects of dosage forms on biological response, physiological factors which may affect the drug contained in the dosage form and the dosage form of the drug itself.
- PHARMACEUTICS IV (3). LEC. 3. Pr., PY 401. Coreq., PY 422, 533. PC 448. Introduction to the prescription, its interpretation, handling, compounding and dispensing together with pertinent calculations and techniques.
- 403L PHARMACEUTICS IV LAB. (1). LAB. 3. Coreq., PY 403. Compounding and dispensing of prescriptions and proprietaries are practiced.
- ESSENTIALS OF DRUG ACTION (5). Pr., CH 519, PY 316, ZY 561. Physical and chemical properties of drugs, autocoids and vitamins; principles of pharmacology.
- 420. MEDICINAL CHEMISTRY I (4), Pr., CH 519, PY 316, 419, ZY 561; Coreq., PY 401, 531. Relationship of physiochemical properties to the pharmacological actions of therapeutic agents. The mechanism of action, classification and structure-activity relationships of drugs in terms of their physical and chemical properties.
- 421. MEDICINAL CHEMISTRY II (4). Pr., PY 420, 531; Coreq., PY 532. Continuation of PY 420.
- 422. MEDICINAL CHEMISTRY III (4). Pr., PY 421, 532; Coreq., PY 403, 533. Continuation of PY 421.
- 423. SURVEY OF MEDICINAL CHEMISTRY (5). Pr., CH 305 or departmental approval. Credit in PY 420, 421 or 422 precludes credit for this course. A survey of the molecular action of drugs which emphasizes the relationships of physico chemical and structural properties of organic compounds to their pharmacologic activity.
- 434. NUCLEAR PHARMACY (3). LEC. 3. Pr., PY 532. Use of radioisotopic material in the diagnosis and treatment of disease, including the nature of radiation and its interaction with biological material, measurement of radioactivity, preparation of dosage forms, safe handling of isotopes and legal requirements of radiopharmacy.
- 434L.NUCLEAR PHARMACY LAB. (1). LAB. 3. Pr., or Coreq. PY 434. Laboratory experience designed to meet certification requirements in nuclear pharmacy. Includes experiments in characteristics of ionizing radiation, instrumentation, dosirnetry and dose preparations using the molybdenum-technetium generator and kits.
- 436. CANCER CHEMOTHERAPY (3). LEC. 3. Pr., PY 533, departmental approval. Consideration of theoretical and practical aspects of drug use in therapy of neoplasms.
- 444. HYPERTENSION SCREENING AND EDUCATION (1). Pr., PC 448. A comprehensive review of the etiology, pathology, and pharmacotherapeutics of hypertension. Participation in community screening and education experiences is required.
- DIABETES (1). Pr., 4 PY standing, Physiology, pathology, and treatment of diabetes. Monitoring techniques of home therapy.
- SPECIAL PROBLEMS (1-3), Pr., departmental approval; may be repeated for a maximum of eight credit hours.
- PHARMACOKINETICS (5). LEC. 4, LAB. 3. Pr., PY 401, PC 448. The time course of drug absorption, distribution, metabolism and excretion and the pharmacodynamic relationships.

#### Pharmacy Care Systems

- 531. PHARMACOLOGY I (4). Pr., PC 347, PY 419; Coreq., PY 401, 420. Biochemical and physiological effects, action mechanism, absorption, distribution, biotransformation, excretion and therapeutic and other uses of drugs.
- 532. PHARMACOLOGY II (4). Pr., PY 420, 531; Coreq., PY 421. Continuation of PY 531.
- 533. PHARMACOLOGY III (4). Pr., PY 421, 532; Coreq., PY 403, 422. Continuation of PY 532.
- 534. TOXICOLOGY LABORATORY (1). LAB. 3. Pr., ZY 561, PY 531 or departmental approval, Coreq. PY 535. Exercises in acute and chronic toxicity, isolation, identification and analysis of metals, organic acids and bases from biological specimens.
- TOXICOLOGY (5), Pr., PY 533. The basic science of poisons including the acute and chronic toxicology of common environmental, agricultural, industrial, commercial, medicinal and natural products.
- 536. CELLULAR PHARMACOLOGY (5). Pr., ZY 561, CH 519. Cytological basis of pharmacodynamics including metabolic energy transformation, protein synthesis and cellular control systems as related to drug actions.
- 537. FUNDAMENTALS OF BIONUCLEONICS (3). LEC. 2, LAB. 3. Pr., PS 207, departmental approval and second professional year standing. Theoretical and practical application of trace level radioactivity for research application to pharmacy and allied sciences.
- 539. NEUROPHARMACOLOGY OF DRUGS OF ABUSE (3). Pr., PY 531 or equivalent. In-depth analysis of drugs of abuse, including pharmacokinetics, pharmacodynamics, addiction, physical dependence and effects of drug use during pregnancy. Substance abuse treatment strategies will also be discussed.

## Pharmacy Care Systems (PCS)

Professors Barker, Head, and Berger Associate Professors Anderson-Harper, Gibson, Newton and Pearson Assistant Professor Felkey

Adjunct Assistant Professors Henry, King, Miller and Swensson

- 265. DRUGS AND YOUR HEALTH (3). LEC. 3. Pr., non-pharmacy majors, sophomore standing. Rational use of prescription and non-prescription medications. Topics include: using licit drugs and chemical substances appropriately; development of drugs; economic factors which impact on health care; drugs and pregnancy, children, and the elderly; and the use of self-help medications for a variety of conditions.
- 351. PHARMACEUTICAL CARE (4). Pr., PY standing. Introduction to delivery of health care services with emphasis on the role of the profession of pharmacy.
- 362. INTRODUCTION TO MEDICATION INFORMATION SYSTEMS (3). LEC. 2. LAB. 3. Pr., PY standing. Introduction to the design, control and planning of electronic information systems used to implement medication orders and manage the medication distribution system. Five concepts are emphasized.
- 461. INSTITUTIONAL PHARMACY I (5). LEC. 5. Pr., PY standing. The development of hospitals, their place in society, importance and place of pharmacy in hospitals and nursing homes. The organization, staffing, services, legal requirements, development of institutional pharmacy departments, and inter-departmental relationships to provide comprehensive pharmacy services.
- 462. HOSPITAL PHARMACY LABORATORY (1). LAB. 3, Pr., PY 401 and departmental approval. Course may be repeated for a maximum of three credit hours. Hospital pharmacy experience is obtained in the environment of participating hospitals. Students are expected to furnish transportation for this elective course.
- 464. PHARMACY JURISPRUDENCE (3). Pr., PY standing. Basic legal and ethical principles of pharmaceutical patient care and their effect on the patient drug use process.
- 465. PHARMACY OPERATING SYSTEMS (4). Pr., PCS 351. Methods of systems and decision analysis applied to problems of optimizing the use of money, equipment, drug products, information and personnel within community and institutional environments.
- 466. ENVIRONMENT OF DRUG DELIVERY (3). Pr., PCS 351. Basic political, legal, social, ethical and economic principles of delivering the drug component of health care to patients.
- 469. DRUG LITERATURE RETRIEVAL AND ANALYSIS (4). Coreq., PC 447. Evaluation of current therapeutic and drug literature using the scientific method models.
- 470. CLINICAL DRUG TRIALS (3). LEC. 3. Pr., PCS 469. The design, planning, and execution of protocols for Phase I, II, and III clinical drug trials, including the relative merits of prospective and retrospective methodologies for various disease states.
- 471. PROFESSIONAL COMMUNICATION I (3). LEC. 2, LAB. 3. Pr., PY standing. The nature, purpose and process of communication for the Health Professional. Interviewing, detailing, advertising, and patient counseling are covered along with patient education and information dissemination.
- 472. PROFESSIONAL COMMUNICATION II (3), LEC. 2, LAB. 3, Pr., PCS 471. Continuation of PCS 471.

- 495. SPECIAL PROBLEMS (1-3). Pr., departmental approval. Individualized investigation of pharmacy care systems problems as related to the delivery of health care services.
- 509. INSTITUTIONAL PHARMACY II (3). Pr., PC 448, PCS 461 and departmental approval. Presentation of the development, responsibilities, classification, organization and administration of the pharmacy in hospitals, nursing homes, etc., from the viewpoint of the administrative pharmacist. Surveys the responsibilities of the director of pharmacy service in a hospital.
- 531. TOPICS IN CLINICAL PHARMACY ADMINISTRATION (2). LEC. 2, Pr., PY standing. Mechanisms of health care reimbursement and the initiation and maintenance of a clinical service.
- 563. PUBLIC HEALTH (5). LEC. 4, LAB. 3. Pr., BY 302, PCS 469 or equivalent. Epidemiological study of diseases of man. A survey of the public health and preventive medicinal programs of federal, state, local and private agencies is included.
- 564. DRUG DISTRIBUTION SYSTEMS (3). LEC. 3. Pr., PCS 362, PCS 465, PCS 464. Application of principles of cybernetics to drug distribution systems in hospitals, nursing homes and other inpatient facilities.

# Pharmacy Practice, Clinical (PC)

#### Professor Evans

Associate Professors Campagna, Head, Beck, Janer, Malloy, Reinke and Tanja Assistant Professors Friedrich, Holland, Johns, Rodman, Smith, Sproat and Thomas Adjunct Associate Professor Boosinger Adjunct Assistant Professor Lenz

Affiliate Associate Professors Anderson, Breland, Browdie, Davis, Dekich, Erath, A. Graves, E. Graves, Ingram, Knight, Maxwell, Ramsey, Williams and Willis

Affiliate Assistant Professors Alford, Beasley, Burnett, Campbell, Collette, Cramer, Duty, Franks, Ginn, Glisson, Griffies, Hartenstein, Hullett, Lee, Martin, McKnight, Parker, Ray, Rogers, Rutan, Shawyer, Wakeford, Wang, Weeks, Wix-Eure and Young

Affiliate Instructors Aaron, Allen, Allred, Andrews, Arledge, Armour, Aycock, Ball, Barbaree, Barr, Batt, Beasley, Bertella, Bishop, Blakely, Bonelli, Bowen, Boyd, Brooklere, Burden, Chambliss, Clanton, Clark, Coffey, Coker, Colvard, Coplan, Cox, Dalton, Darnell, Darsey, Davis, Deloach, Drinkard, Durant, Fox, Fricks, Fuller, Geier, Godfrey, Grooms, Gunnels, Hamilton, Heiman, Hession, Hester, Hinkle, Holley, Hollingsworth, Hurley, Jenkins, Johnson,

Jones, Keeton, Kimmons, Kittrell, Knowlton, Layne, Long, B. Main, T. Main, Markham, Martin, Maryanow, Mayhew, McClanahan, McGuffey, McKnight, Mims, Moore, Napp, Nelson, Newman, Nix, Norwood, D. Nowlin, T. Nowlin, Osborne, Owen, Prickett, J. Redden,

- S. Redden, Rudell, Russell, Sandlin, Scarbrough, Seale, Short, Simmons, Slay, Smith, Spear, Spina, Spruill, Stamitoles, Stephenson, Street, Stribling, Styron, C. Thomas, J. Thomas, M. Thomas, Tumer, Vinson, Whitehead, Whitmer, C. Wilson, R. Wilson, Windle, Woodward, Worthington, Wrenn and Zorn
- HUMAN PATHOLOGY (5). LEC. 5. Pr., ZY 561, CH 519. General mechanisms and language of disease. Emphasis on pathogenesis of disease to include an understanding of the dynamic nature of disease.
- 348. PHARMACEUTICAL TERMINOLOGY (2). LEC. 2. Pr., first professional year standing. Common terms and abbreviations used in the professional and scientific aspects of pharmacy and medicine.
- 446. THERAPEUTICS I (4). LEC. 4. Pr., PC 347. Coreq., PY 401, 420, 531. Selected diseases and the assessment of therapeutic and adverse responses to pharmacologic agents of choice.
- 447. THERAPEUTICS II (4). LEC. 4. Pr., PG 446. Coreq., PY 421, 532. Continuation of PC 446.
- 448. THERAPEUTICS III (4). LEC. 4. Pr., PC 447. Coreq., PY 422, 533. Continuation of PC 447.
- 450. SELF CARE AND NONPRESCRIPTION MEDICATIONS (3). LEC. 3. Pr., PC 448, PY 422, 533. Introduction to the triage function of the pharmacist with the focus on nonprescription medications, self-diagnostics and self monitoring devices.
- 453. PROFESSIONAL PRACTICE (3). LEC. 1, LAB. 6. Pr., 3rd prof. year standing. departmental approval. Placement of students in various pharmacy practice environments to increase knowledge of practice options.
- 454. CARDIOPULMONARY LIFE SUPPORT (1). Pr., PC 448. The techniques used to administer basic life support to adults, children and infants. The devices and drug therapy used in advanced cardiac life support.
- 455. VENEREAL DISEASE EDUCATION AND CONTRACEPTION (1). Pr., PC 448. The epidemiology, modes of transmission, prevention, diagnosis and treatment of venereal diseases. The proper use, effectiveness, adverse effects and contraindications of contraceptive methods.

- 456. DRUG ABUSE/POISON PREVENTION EDUCATION (1). Pr., PC 448. Drugs and chemical substances used for non-therapeutic purposes and specific treatment modalities for intoxications.
- DRUG INTERACTIONS (3). LEC. 3. Pr., PC 448, PY 422, 533. Mechanisms of drug interactions with other drugs, foods, endogenous materials and modifications of laboratory tests due to drugs.
- 458. INSTITUTIONAL PRACTICE EXTERNSHIP (8). LAB. 40. Pr., PC 448, PY 403, 422, 533. PCS 471. A structured practicum in an institutional setting of five weeks (200 hours) duration.
- 459. COMMUNITY PRACTICE EXTERNSHIP (8). LAB. 40. Pr., PC 448, PY 403, 422, 533, PCS 471. A structured practicum in a community pharmacy setting of live weeks (200 hours) duration.
- CLERKSHIP-CLINICAL PRACTICE (8). LAB. 40. Pr., PC 448, PY 403, 422, 533, PCS 471. A clinical rotation of five weeks (200 hours). Students participate in patient care activities that teach skills necessary for solving therapeutic problems and evaluating drug therapy.
- 461. CLERKSHIP-SPECIALTY ELECTIVE (8). LAB. 40. Pr., PC 448, PY 403, 422, 533, PCS 471. A live-week (200 hours) professional practice experience approved by the department.
- 495. SPECIAL PROBLEMS (1-3). Pr., departmental approval. Individualized investigation of clinical pharmacy problems as related to the delivery of health care services.
- 502-503. RESEARCH METHODS I-II (3-3). Pr., PCS 469. Assessment and interpretation of research design in pharmacy/medical literature.
- 504-505. DRUG INFORMATION RETRIEVAL AND ANALYSIS I-II (2-2). Pr., PCS 469. Computer-assisted drug information retrieval, analysis and communication.
- 510-511-512. ADVANCED THERAPEUTICS I-II-III (6-6-6). Pr., PC 448. Pathophysiology, physical assessment and pharmacotherapy of the common disease states.
- DRUG-INDUCED DISEASE (3). Pr., PC 448. Patient evaluation in drug-induced disease and adverse drug reaction surveillance.
- APPLIED PHARMACOKINETICS (4), Pr., PY 502. Formulation of a consultation for patient cases in which pharmacokinetic principles apply.
- 530. ADVANCED PATIENT MONITORING I (3). LEC. 1, LAB. 6. Pr., admission to Doctor of Pharmacy program. Evaluation of patient data, identification of drug therapy-related problems and development of therapeutic plan.
- 531-532. ADVANCED PATIENT MONITORING II-III (1-1), Pr., PC 530. Continuation of PC 530 with an experiential component.
- CLINICAL SEMINAR (2). Pr., admission to Doctor of Pharmacy program. Coreq., clerkship sequence. Student seminars on topics in drug therapy.
- 550-571. CLERKSHIP (INCLUSIVE) (9). Pr., admission to Doctor of Pharmacy program, required coursework, Clinical rotation of five weeks (200 hours). Rational pharmacotherapeutics and patient assessment. Verbal and written communication skills emphasized

### The clerkship titles are:

- 550. CLERKSHIP DRUG INFORMATION
- 551. CLERKSHIP CLINICAL PHARMACOKINETICS
- 552. CLERKSHIP RESEARCH
- 553. CLERKSHIP AMBULATORY CARE
- 554. CLERKSHIP GENERAL INTERNAL MEDICINE
- 555. CLERKSHIP PULMONARY MEDICINE
- 556. CLERKSHIP ONCOLOGY/HEMATOLOGY
- 557. CLERKSHIP NEPHROLOGY
- 558. CLERKSHIP CARDIOLOGY
- 559. CLERKSHIP CLINICAL PHARMACY ADMINISTRATION
- 560. CLERKSHIP CRITICAL CARE
- 561. CLERKSHIP DRUG USE EVALUATION
- 562. CLERKSHIP GERIATRICS
- 563. CLERKSHIP NUTRITION
- 564. CLERKSHIP INFECTIOUS DISEASES
- 565. CLERKSHIP SURGERY
- 566. CLERKSHIP NEONATOLOGY
- 567. CLERKSHIP MEDICINE SPECIALTY
- 568. CLERKSHIP ELECTIVE AREA
- 569. CLERKSHIP PEDIATRICS
- 570. CLERKSHIP RURAL HEALTH CARE
- 571. CLERKSHIP FAMILY PRACTICE

# Philosophy (PA)

Professors McKown, Head, Davis, Machan and Perry Associate Professors Brown, Elfstrom and White Assistant Professors Jolley, Walters, Watkins and Wojcik Instructors Causey, Epperson, Evans and Ryan

- INTRODUCTION TO LOGIC (5). Basic logical principles and applications: definition and classifications, informal fallacies, categorical logic, elementary propositional logic, analogy and selected inductive inferences.
- 102. INTRODUCTION TO ETHICS (5). The basic concepts, types and schools of moral theory, and illustrates how these may be applied to contemporary moral problems.
- DEDUCTIVE LOGIC (5). Argument structure, symbolic notation and translation, formal proofs and invalidations in propositional logic and in first order predicate logic.
- INTRODUCTION TO PHILOSOPHY (3). The methods of philosophical inquiry and an examination of selected philosophical topics.
- PHILOSOPHIES OF HUMAN NATURE (3). Examines philosophical anthropology by surveying alternative theories of human nature.
- 218. ETHICS AND THE HEALTH SCIENCES (5). Topics such as contraception, abortion, and eugenics; human experimentation; truth in drugs and medicine; death and dying; and other health related issues in order to clarify relevant ethical considerations and to provide philosophical bases for decisions on right and wrong, good and bad, rights and responsibilities.
- BUSINESS ETHICS (5), Covers normative issues associated with commerce such as advertising, management and business abroad.
- 220. HONORS LOGIC (5). Informal fallacies; term and syllogistic logic, elementary propositional logic.
- HONORS PHILOSOPHY (3). Philosophical methods and their applications to problems in epistemology and metaphysics.
- HONORS ETHICS (5). Major ethical theories from the history of philosophy: their foundations in epistemology and metaphysics and their extension into social thought.
- 305. AESTHETICS (5). Examines theories of beauty and art from Plato to contemporary thinkers.
- SYMBOLIC LOGIC (5). Pr., PA 211 or departmental approval. Propositional logic and predicate logic through relations: natural language and logic; some philosophical problems in logic.
- 330. PHILOSOPHY OF RELIGION (5). Examines the nature of religious language, religious knowledge, religious theories of humanity and evil and examines arguments for the existence of God and the immortality of the soul.
- 333. HISTORY OF PHILOSOPHY I. ANCIENT AND EARLY MEDIEVAL (5). Surveys of philosophic thought from the Pre-Socratics through Aquinas, emphasizing Plato and Aristotle.
- 334. HISTORY OF PHILOSOPHY II. LATE MEDIEVAL AND EARLY MODERN PHILOSOPHY (5). Surveys philosophic thought from Occam to Kant emphasizing major thinkers.
- 335. HISTORY OF PHILOSOPHY III. RECENT AND CONTEMPORARY PHILOSOPHY (5). Surveys various representatives of the major philosophical trends during these periods.
- 340. MEDIEVAL PHILOSOPHY (5), Survey of philosophical thought from late antiquity through the Middle Ages. Emphasis on Plotinus, Islamic thinkers, Augustine, Abelard, Anselm and Thomas Aquinas.
- 360. POLITICAL PHILOSOPHY (5). Combines a historical and analytical approach. The political thought of both classical and contemporary thinkers, including Plato, Aristotle, Machiavelli, Hobbes, Locke, Mill, Spencer, Marx, Rawls and Nozick will comprise the chief focus of the course, together with such concepts as sovereignty, natural law, liberty, equality and order.
- PRAGMATISM (5). Emphasis on Peirce, James, and Dewey. Some philosophical issues examined from a pragmatic viewpoint.
- PHILOSOPHICAL FOUNDATIONS OF COMMUNISM (5). Pr., junior standing, Examines the thought of Marx-Engels and its development in Kautsky, Bernstein, Lenin.
- EXISTENTIALISM (5). Pr., junior standing. Selected works of such authors as Kierkegaard, Nietzsche, Sartre, Jaspers, and Heidegger.
- PHILOSOPHY OF MIND (5), Pr., junior standing. Examines classical and modern texts on the phenomenology of consciousness and mind-body problems.
- PROCESS PHILOSOPHY (5), Pr., junior standing. An examination of selected writings of Bergson, James and Whitehead.
- CONTEMPORARY MARXISM (5). Pr., junior standing. Examines the thought of Lukacs, Stalin, Merleau-Ponty, Sartre, Habermas, Marcuse and others.
- 455. METAPHYSICS (5). Pr., junior standing. A critical analysis of such topics as monism and pluralism, freedom and determinism, realism and nominalism and the mind-body problem.

### Physical Science

- 460. EPISTEMOLOGY (5). Pr., jurior standing. The origin, nature, kinds, and validity of knowledge, with a consideration of faith, intuition, belief, opinion, certainty and probability.
- PLATO (5). Pr., junior standing. Examines such topics as Plato's Methodology, epistemology, metaphysics, ethics, political theory.
- ARISTOTLE (5). Pr., junior standing. Examines Aristotle's logic, epistemology, metaphysics, ethics, political theory, psychology.
- BRITISH EMPIRICISM (5), Pr., junior standing. Examines 17th- and 18th-century empiricism emphasizing Locke, Berkeley, Hume.
- 484. CONTINENTAL RATIONALISM (5). Pr., junior standing. Examines major themes in such thinkers as Descartes, Spinoza, Leibniz, Gassendi.
- 492. PHILOSOPHY OF LAW (5). The nature and function of law including such topics as judicial reasoning, the ground of authority, natural law, legal responsibility, punishment, civil disobedience, and the relation of law to ethics and the behavioral sciences.
- 495. READINGS IN PHILOSOPHY (1-10). Pr., junior standing, a 3.25 average in relevant prior work either in philosophy or in related areas and consent of department head and instructor. Specific reading programs may be developed which pertain to a particular philosopher, period or problem. A paper and an examination will be expected. May be repeated for credit.
- 497. READING FOR HONORS IN PHILOSOPHY (3-6).
- HONORS THESIS (3-6). Repeatable once for a maximum of six hours credit. Senior thesis for students in the University Honors Program.

### ADVANCED UNDERGRADUATE AND GRADUATE

- 504. MODERN ETHICAL THEORIES (5). Recent analyses of the meanings, presuppositions, and problems of ethical terms and judgments.
- 513. PHENOMENOLOGY (5). The phenomenological method and its application in the works of William James, Husserl, Heidegger, Sartre and Merleau-Ponty.
- 515. PHILOSOPHY OF SCIENCE (5). Such topics as empirical meaning, verifiability, measurement, probability, causality and determinism.
- ANALYTIC PHILOSOPHY (5). Philosophical analysis in the 20th century from G. E. Moore through the Oxford analysis.
- KANT AND TRANSCENDENTAL IDEALISM (5). The philosophy of Kant in particular but also of the early Fichte and Schelling and of neo-Kantians.
- 591. HEGEL AND ABSOLUTE IDEALISM (5). The philosophy of Hegel in particular but also of the late Fichte and Schelling, of neo-Hegelians and of Schopenhauer and other critics.
- 650. SEMINAR (1-10). Pr., departmental approval. The content will change for each quarter in any one calendar year. This will vary from movements of thought to an intensive study of one of the great thinkers such as Plato or Whitehead. May be repeated for credit.

# Physical Science (PHS)

Associate Professor Simon

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 530. MODERN CONCEPTS IN PHYSICAL SCIENCE I (5). LEC. 4, LAB. 3. Pr., PHS 101 or PS 206 or departmental approval, junior standing. General physical science based on IPS materials to acquaint the student with the IPS approach. Not available to graduate students in the areas of science or mathematics.
- 531. MODERN CONCEPTS IN PHYSICAL SCIENCE II (5). LEC. 4, LAB. 3, Pr., PHS 101 or PS 206 or departmental approval, junior standing. A survey of physics topics using PSSC and Project Physics materials to acquaint the students with these approaches to high school physics. Not available to graduate students in the areas of science or mathematics.
- 532. NUCLEAR SCIENCE FOR TEACHERS (5). LEC. 4, LAB. 3. Pr., a course in general physics and preferably one in chemistry plus junior standing, junior or senior high school teacher, or departmental approval. Fundamentals of atomic and nuclear structure for junior and senior high school teachers, including radioactivity and nuclear radiation, radiation detection, radiological safety, nuclear fission and fusion, nuclear power reactors and power generation, advantages and hazards of nuclear power reactors. Not available to graduate students in the areas of science or mathematics.

# Physics (PS)

Professors Perez, Head, Askew, Clothiaux, Fromhold, Gandy, Hinata, Oks, Pindzola, Swanson and Williams Walter Professor Barnes

Alumni Professor Chen

Associate Professors Bozack, Hanson, Fukai, Knowlton, Simon and Wersinger
Assistant Professors Lin, Robicheaux and Tin

- HONORS PHYSICS I (4). Coreq., PS 170L and MH 191. Classical mechanics using calculus Galilean Kinematics, Newtonian Dynamics for single particles and rigid bodies, conservation laws in mechanics, gravitation.
- 170L.HONORS PHYSICS I LAB (1). Coreq., PS 170, MH 191. Labs paralleling the PS 170 class.
- HONORS PHYSICS II (4). Pr., PS 170. PS 170L Coreq., PS 171L, MH 192. Waves and oscillations, fluid dynamics, thermodynamics, geometrical and physical optics..
- 171L HONORS PHYSICS II LAB (1), Pr., PS 170, 170L. Coreq., PS 171, MH 192. Lab paralleling PS 171.
- 172. HONORS PHYSICS III (4). Pr., PS 171, 171L. Coreq., PS 172L, MH 193. Electricity and magnetism
- 172L.HONORS PHYSICS III LAB (1). Pr., PS 171, 171L. Coreq., PS 172, MH 193. Lab paralleling PS 172.
- 200. FOUNDATIONS OF PHYSICS (5). LEC. 4, LAB. 3. The principles of mechanics, heat, light, sound, electricity, magnetism and selected topics from modern physics. Credit in PS 205 or 220 precludes credit for this course. Not available to graduate students in the areas of science or mathematics.
- 205-206-207. INTRODUCTORY PHYSICS I, II, III (3-3-3). LEC. 3. Pr., for PS 205, MH 160; for PS 206, PS 205; for PS 207, PS 206. Coreq., for PS 205, PS 205L; for PS 206, PS 206L; for PS 207, PS 207L. Three-quarter sequence covering mechanics, fluids, heat, wave motion, sound, electricity, magnetism, light, relativity, atomic and nuclear phenonema and radiation. Quantitative as well as qualitative aspects of the subject are stressed utilizing algebra and trigonometry. Credit for the PS 220-221-222 sequence precludes credit for the 205-206-207 sequence.
- 205L-206L-207L. INTRODUCTORY PHYSICS LABORATORY I, II, III (1-1-1). LAB. 3. Coreq., for PS 205L, 205; for PS 206L, PS 206. Selected lab experiments paralleling topics in PS 205-206-207 respectively.
- 215. ASTRONOMY (5). LEC. 4, LAB. 3. Open to non-science majors. Earth and the solar system; the stars; theories of stellar evolution, neutron stars, black holes, supernova, galaxies and the expanding universe; modern cosmological theories. The laboratory emphasizes studies with the telescope.
- GENERAL PHYSICS I (3). LEC. 3. Coreq., MH 163, PS 220L. Mechanics using calculus. Threequarter sequence PS 220-221-222 serves as a foundation for students enrolled in science and engineering programs.
- 220L GENERAL PHYSICS LABORATORY I (1), LAB. 3. Coreq., PS 220. Selected laboratory experiments paralleling topics covered in PS 220.
- GENERAL PHYSICS II (3). LEC. 3. Pr., PS 220, 220L. Coreq. PS 221L, MH 264. A continuation of PS 220 including heat, light and sound.
- 221L GENERAL PHYSICS II (1). LAB. 3. Coreq., PS 221. Selected lab experiments paralleling topics covered in PS 221.
- GENERAL PHYSICS III (3), LEC. 3. Pr., PS 220, Coreq., PS 221L. A continuation of PS 221 including gravity, electricity and magnetism.
- 222L GENERAL PHYSICS LABORATORY III (1). LAB. 3. Coreq., PS 222. Selected lab experiments paralleling topics covered in PS 222.
- 302. ELECTRONICS (5). LEC. 4, LAB. 3, Pr., PS 222, MH 269. Review of AC and DC circuits; theory of vacuum tubes and semiconductors; diodes as rectifiers and regulators; tube and transistor voltage and power amplifiers; feedback amplifiers and oscillators; pulse and digital circuits. Appropriate laboratory exercises.
- 303. OPTICS (4). Pr., PS 301 or EE 392, MH 501, junior standing. Intermediate course in physical optics comprising wave motion, reflection, refraction, dispersion, origin of spectra, interference, diffraction and polarization.
- PHYSICS LABORATORY (2). LAB. 6, Pr., PS 300, 305. Selected laboratory experiments from fields
  of electricity, magnetism and modern physics.
- MECHANICS I (5). Pr., MH 337. Newtonian mechanics, linear oscillations, non-linear oscillation introduction to calculus of variations.
- MECHANICS II (5). Pr., PS 310. Hamilton's principle and Lagrange's equations, central force motion, collisions, non-inertial frames, rigid body dynamics, vibrating systems.
- 320. MODERN PHYSICS FOR ENGINEERS (3). LEC. 3. Pr., PS 222, MH 264. Introduction to modern physics, including special relativity, Schrodinger wave mechanics, atomic and nuclear systems, elementary particles. Credit in PS 207 or 305 precludes credit in this course.

- 320L.MODERN PHYSICS FOR ENGINEERS LAB (1), Coreq., PS 320, Lab paralleling PS 320. Only for physics majors.
- 412. SEMNAR IN MODERN PHYSICS (1). Library search, written reports, and oral presentation of a pertinent topic in modern or current physics. May be repeated for credit.
- HONORS THESIS (3-6), Pr., senior standing in the honors program. May be repeated once for maximum of six hours credit.
- 491. UNDERGRADUATE RESEARCH (3-5). LAB. 9-15. Pr., departmental approval and senior standing. Student will work under the direction of a staff member on a problem of mutual interest. May be repeated for a maximum of 15 credit hours.

# ADVANCED UNDERGRADUATE AND GRADUATE

- 504. STATISTICAL THERMODYNAMICS (5). Pr., PS 516 or concurrently, senior standing. Temperature, entropy and chemical potential are developed from the principles of equilibrium quantum states. The Gibbs representation is introduced and applied to the development of equilibrium distribution functions. Quantum statistics is developed and applied to problems.
- 506-507. EXPERIMENTAL PHYSICS I, II (2-2). LAB. 6-6. Pr., PS 301, 302. Coreq. PS 303. Selected experiments from areas of modern physics, optics, nuclear physics, plasmas and solid state physics.
- 510-511. ELECTRICITY AND MAGNETISM I, II (4-4). Pr., for PS 510. PS 222, MH 269; for PS 511, PS 510. Electrostatics, study of fields in dielectrics, magnetic forces and their effects, electric and magnetic properties of matter, Maxwell's equations, electro magnetic waves and radiation.
- 515-516. INTERMEDIATE MODERN PHYSICS 1, II (5-5). Pr., MH 269, PS 305 or 320. Special theory of relativity; introductory quantum mechanics with applications to microscopic systems; Fermi-Dirac, Bose-Einstein statistics; and electronic bands in solids.
- 520. NUCLEAR PHYSICS AND ELEMENTARY PARTICLES (5). Pr., PS 516. Radioactivity; nuclear radiation; nuclear forces, structure of nucleus, nuclear reactions, accelerators and reactors. A treatment of elementary particles including conservation laws, symmetry principles, decay modes and classification.
- MODERN ELECTRONICS (5). LEC. 3, LAB. 6. Pr., PS 302. Network theory and digital logic; state-ofthe-art electronic devices; operational amplifiers; linear and digital integrated circuits; servo systems; selected topics in modern instrumentation.
- 531-532-533. METHODS OF THEORETICAL PHYSICS I, II, III (3-3-3). Pr., MH 362. Theoretical methods used in classical and quantum physics, including applications of transformations, special functions, Green's functions, variation and perturbation theory, tensor and group theory.
- 535. INTRODUCTION TO SOLID STATE PHYSICS (5). Pr., PS 516, MH 264 or departmental approval. Solid state phenomena including lattice vibrations, band description of electronic states in metals, semiconductors and insulators, and magnetic phenomena.
- 545. PLASMA PHYSICS (4). Pr., PS 511. departmental approval or senior standing. Collision phenomena in gases, creation of ionized gases (plasmas), interaction of plasmas and fields, plasma heating, instabilities, radiation and applications.
- 575. COMPUTER SIMULATION OF PHYSICAL SYSTEMS (3). Pr., MH 265 or 269, PS 220-221-222 or 205-206-207 and some proficiency in PASCAL, C, MODULA-2, BASIC or FORTRAN. Employment of computer simulation techniques in realistic applications of physics.
- SPECIAL TOPICS IN ADVANCED PHYSICS (1-5). Pr., departmental approval. Topics will vary as needed. May be taken for credit more than once.

## Plant Pathology (PLP)

Professors Kloepper, Head, Backman, Gazaway, Hagan and Rodriguez-Kabana Distinguished University Professor Morgan-Jones Associate Professors Bowen and Tuzun Assistant Professors Collins, Murphy, Sikora and Wilson

- 215. FOREST PESTS (4). LEC. 3, LAB. 1. Pr., BI 101, 102. Spring. Diseases and pests of forest and shade trees from seedling to maturity. Pest damage to wood products will also be discussed. Field trip will emphasize major forest pest problems in Alabama.
- GENERAL PLANT PATHOLOGY (5). LEC. 4, LAB. 2. Pr., BI 101-102 and junior standing. Winter, Spring. Nature cause and control of plant diseases illustrated by studies of common diseases of field crops, fruits, vegetables, turf and ornamentals.
- 460. SPECIAL PROBLEMS (1-3). Pr., departmental approval, senior standing. A. Pathology; B. Virology; A student cannot register for more than three hours credit in any one quarter or in any one area.

#### ADVANCED UNDERGRADUATE AND GRADUATE

 INTRODUCTORY MYCOLOGY (5). LEC. 3, LAB. 4. Pr., BI 101-102 or equivalent. Fall. A systematic survey of the fungi with emphasis on morphology.

- 510. DISEASES OF FRUITS AND VEGETABLES (3), LEC. 2, LAB. 1. Pr., PLP 309 or equivalent, Spring, odd years. Nature, cause, and control of fruit and vegetable crop diseases illustrated by study of common diseases.
- 518. PLANT DISEASE DIAGNOSIS (5), LEC. AND LAB. 8. Pr., PLP 309 or departmental approval. Summer. Approaches, techniques and practical experience in the diagnosis of plant diseases.
- 553 PRINCIPLES OF PLANT DISEASE CONTROL (3). LEC. 2, LAB. 2. Pr., PLP 309 or equivalent. Spring. Plant disease control strategies; exclusion, eradication, resistance, and protection. The role of each of these disease management strategies will be studied in the development of integrated plant disease management program that utilize cultural, biological and chemical controls.

# Political Science (PO)

Professors Clark, Head, Becker, Bernstein, Dickson, Heilman, G. Johnson and Martin Associate Professors Barrow, Burns, Ford, Gryski, P. Johnson, Montjoy, Spindler, Ward and Zuk

Assistant Professors Crystal, Gadzey, Grenell. Hollifield. Kelly, Robinson. Slaton and Widell Adjunct Assistant Professor Abbet Visiting Assistant Professor Watson

Instructor Cannon Visiting Instructor Houston

- INTRODUCTION TO AMERICAN GOVERNMENT (5). Constitutional principles; federalism; elections and public opinion; legislative, executive and judicial departments; principal functions.
- AMERICAN STATE AND LOCAL GOVERNMENT (5). State constitutional principles; organization
  and functions of state government; national-state and state-local relations; special attention to Alabama government.
- 260. SURVEY OF LAW ENFORCEMENT (5). Pr., sophomore standing. (Same as LE 260.) Introduction to the philosophical and historical backgrounds; agencies and processes; purposes and functions; administration and technical problems; career orientation.
- HONORS POLITICAL SCIENCE (5). Pr., admission to Aubum University Honors Program. Selected themes in American politics at the national, state and local levels.
- 300. POLITICAL SCIENCE RESEARCH METHODS (5). Pr., PO 209 or 210 and sophomore standing. Introduction to empirical research methods in political science with attention to computer applications.
- INTRODUCTION TO POLITICAL THOUGHT (5). Pr., sophomore standing. Selected major themes in political thought from ancient to modern times.
- 309. INTRODUCTION TO INTERNATIONAL RELATIONS (5). Pr., sophomore standing. International retations, including a consideration of the bases of national power and the rudiments of international politics.
- 311. INTERNATIONAL ORGANIZATION (5). Pr., sophomore standing. The evolution of international organization from the beginning through the United Nations.
- 312. INTRODUCTION TO COMPARATIVE GOVERNMENT AND POLITICS (5). Pr., sophomore standing. Methods of classifying governments by institutional and developmental characteristics. A review of the forces which create political stability and instability, democracy and dictatorship; contemporary political systems in selected countries will be used for comparison.
- 314. AMERICAN FOREIGN POLICY (5). Pr., sophomore standing. Analysis of the decision-making process of American foreign policy and of selected current issues of American foreign policy.
- 315. AMERICAN POLITICAL THOUGHT (5), Pr., sophomore standing. The principal American political philosophers and philosophies and their influence on political institutions.
- 316. NATIONAL SECURITY AND FOREIGN POLICY (3). Pr., sophomore standing. Introduction to national security aspects of United States foreign policy.
- 318. LATIN AMERICA AND THE UNITED STATES (3). An analysis of Latin American-United States relations in their political, social and economic aspects.
- 320. INTERGOVERNMENTAL RELATIONS (3). Pr., PO 209 or 210 and sophomore standing. Relationships between units of local, state and national governments in structural and policy areas; tederalism in theory and practice.
- 323. MUNICIPAL GOVERNMENT IN THE UNITED STATES (5). Pr., PO 210 and sophomore standing. Functions of city government, relation of city to state; electorate, party system and popular control; forms of government; administrative organizations; some reference to Alabama.
- 325. INTRODUCTION TO PUBLIC ADMINISTRATION (5). Pr., sophomore standing. Organization, development, procedures, process, and human factors involved in administration in a political environment.

- 326. THEORY OF PUBLIC ORGANIZATION (5). Pr., PO 325 and sophomore standing. Structure and function of governmental organizations with an emphasis on theories of administrative hierarchies and evaluation of bureaucracy.
- POLICY PROCESS (5). Pr., sophomore standing. The formulation and implementation of public policy; the roles of the major governmental institutions in policy making.
- 328. GOVERNMENT AND THE ECONOMY (5). Pr., PO 325 and sophomore standing. Examination of constitutional and political bases of governmental action; the origin and evolution of policies; relationships between political and economic institutions; and the consequences of governmental action or inaction.
- 329. THE AMERICAN PRESIDENCY (5). Pr., PO 209, sophomore standing. The President as legislative leader, chief executive, chief diplomat, and commander-in-chief. Political styles and personalities of recent presidents. Presidential decision-making.
- INTRODUCTION TO PUBLIC LAW AND CONFLICT RESOLUTION (5). Pr., sophomore standing.
   Theoretical and comparative survey of historical and contemporary methods of resolving individual
   and group conflicts.
- THE LEGISLATIVE PROCESS (3). Pr., PO 209 or 210, sophomore standing. Principles, procedures
  and problems of lawmaking in the U.S.; special attention to Congress and the state legislatures.
- 332. THE JUDICIAL PROCESS (3). Pr., sophomore standing. The role of the courts; the nature of the jurisprudence; comparative legal systems; the origin of law; and the concept of legality.
- 333. ADMINISTRATIVE RESPONSIBILITY (3). Pr., PO 325 and sophomore standing. Roles and functions of public administration in a democratic society. Emphasis on bureaucratic ethics.
- POLITICAL PARTIES AND POLITICS (5). Pr., PO 209, sophomore standing. The nature, organization and operation of political parties in the United States; the suffrage; nominating and electoral processes; importance and nature of interest groups.
- 341. PRESSURE GROUPS (3). Pr., sophomore standing. Major private associational groups affecting public policy in the United States. Attention to their structures, funding, public regulation and political activities.
- 342. POLITICS AND THE MEDIA (5). Influences of the media (broadcast and printed) on political action, the electoral process and popular concepts of political institutions; "use" of the media and its regulation by government.
- BASIC MEDIATION PRACTICE (3). Pr., sophomore standing. Theory and practice of mediation as a major form of conflict resolution.
- INDEPENDENT STUDY (1-5). Pr., junior standing and departmental approval. Independent study and research, directed by a faculty member.
- 410. ADMINISTRATION AND MANAGEMENT OF RECORDS (3). Pr., sophomore standing. The principles and use of records management in the systematic analysis and scientific control of the life cycle of governmental, business and university records in terms of quantity, quality and cost.
- JUVENILE JUSTICE (5). Pr., SOC 201 or departmental approval. Analysis of the juvenile justice system with emphasis on some of the unique issues and problems that are involved in the adjudication and rehabilitation of juvenile offenders. Credit for SCR 415 precludes credit for PO 415.
- 450. INTERNSHIP (5-10). Pr., PO, PUB or HA major and junior standing. (S-U grading only.) Practical political or administrative experience in public agencies or related activities arranged and approved by the department.
- INTERNSHIP READING COURSE (5). Coreq., concurrent enrollment in PO 450, departmental approval. Content of reading by agreement of student and instructor. Not open to graduate students.
- 471. HONORS READINGS COURSE (3-5). Pr., admission to the Auburn University Honors Program or the Political Science Department Honors Program. May be repeated for a maximum of six hours but a student may earn no more than a combined total of nine credit hours in PO 471 and 472. Honors students taking an internship should select this course in fieu of PO 451.
- 472. HONOR RESEARCH AND THESIS (1-3). Pr., admission to the Auburn University Honors Program or the Political Science Department Honors Program. May be repeated to a maximum of six hours but a student may earn no more than a combined total of nine credit hours in P O 471 and 472.
- SPECIAL TOPICS IN POLITICAL SCIENCE (3). Pr., PO 209. Review of selected Political Science topics.

### ADVANCED UNDERGRADUATE AND GRADUATE

- 501. AMERICAN CONSTITUTIONAL LAW I (5). The constitution of the United States on the basis of the decisions and opinions of the Supreme Court defining judicial review, the relationship of the executive, legislative and judicial branches of the national government and the federal system.
- 502. AMERICAN CONSTITUTIONAL LAW II (5). The Constitution of the United States on the basis of the leading decisions and opinions of the Supreme Court defining civil rights in relation to both national and state governments.

- AMERICAN CONSTITUTIONAL LAW III (5). Supreme Court opinions defining voting rights, gender discrimination, race discrimination, age discrimination, affirmative action and the right to privacy.
- 504. AMERICAN CONSTITUTIONAL LAW IV (5). Supreme Court opinions defining due process in national and state administration of criminal justice and juvenile justice.
- 505. METROPOLITAN AREA GOVERNMENTAL PROBLEMS (3), Political, governmental, and administrative organization and actions in urban areas with many governmental entities; governmental problems resulting from urbanization and possible solutions.
- 512. COMPARATIVE CRIMINAL JUSTICE SYSTEMS (5), Pr., PO 209 and PO/LE 260, or PO 312. Institutional comparison, social control problems and policies, and functional analysis of the criminal justice systems or democratic, authoritarian, and totalitarian governments in selected countries with emphasis on policing, the judiciary and the law. (Same As CJ 512).
- FINANCIAL ADMINISTRATION (5). Pr., PO 325. Theory and practice of budgeting and the review of government financial documents.
- 515. PUBLIC PERSONNEL ADMINISTRATION (3), Pr., PO 325. Personnel policies and processes of national, state and local governments. The role of politics in public personnel management.
- 517. LABOR RELATIONS IN PUBLIC ORGANIZATIONS (3). Pr., PO 515 or MN 442. The background, legal and constitutional aspects and administration of group negotiations and collective bargaining in public employment. Credit for this course precludes credit for MN 517.
- 518. ADMINISTRATIVE LAW (5). Pr., PO 325 and PO 501 or 502, General nature of administrative law, types of administrative action and enforcement; analysis of rule-making and adjudication; administrative due process; judicial review. Case method.
- 519. PROBLEMS IN PUBLIC ADMINISTRATION (3-5). Pr., departmental approval, senior or graduate standing. Review of selected problems in public administration through readings, case studies and individual research projects. May be repeated for a maximum of 10 hours.
- 521. POLITICAL BEHAVIOR (5). Pr., PO 300 or departmental approval. An analysis of the processes of political attitude formation. Emphasis on the development and testing of empirical theories of political culture, political socialization process, public opinion formation and participation.
- 523. COMMUNIST THEORY AND PRACTICE (3). Marxist theory, its Leninist version and recent revisions in Western Europe, along with illustrations of actual practice drawn from all sides of the communist world.
- 526. GOVERNMENTS OF WESTERN EUROPE (5). Descriptions and analyses of the principal political structures and power systems of Western Europe with emphasis on Great Britain, France and Germany.
- 533. GOVERNMENT AND POLITICS OF THE FAR EAST (5). The political environment, institutions, and processes of the Far East, with emphasis on China and Japan; also foreign relations of the area including Great Power interests.
- 535. CONTEMPORARY INTERNATIONAL POLITICS (5). Survey of the conflicts of national interests in contemporary international politics with emphasis on the efforts to resolve these issues through diplomacy. Gives students the opportunity to apply their training to an analysis of actual contemporary international issues.
- 536. POLITICS IN THE USSR AND SUCCESSOR STATES (5). Survey and analysis of evolving political institutions and domestic policies from 1917 to the breakup of the USSR in 1991, as well as an introduction to emerging political patterns in Russia and the other successor states.
- 537. SOVIET AND POST-SOVIET FOREIGN POLICY (5). Survey and analysis of Soviet foreign policy from 1917 to the breakup of the USSR in 1991 and development of the foreign policies of Russia and other successor states.
- 538. GOVERNMENT AND POLITICS IN EASTERN EUROPE (5). Survey and analysis of evolving political institutions and policies in Eastern and Central Europe under Communism and in the post-Communist period.
- 539. GOVERNMENT AND POLITICS OF LATIN AMERICA (5). The political environment, institutions and processes of Latin America with emphasis on dynamic factors that influence the degree of democracy and authoritarianism, stability and instability and politico/economic development in the area.
- INTERNATIONAL LAW (5). The origin and development of international law with emphasis on recent and current developments - trends.
- 552. PROGRAM EVALUATION FOR POLITICAL SCIENTISTS AND PUBLIC ADMINISTRATORS (5). Pr., PO 300 and junior standing. Theory and practice of action program evaluation in the public sector with attention to program planning, process assessment and impact assessment.

# Poultry Science (PH)

Professors Brewer, Head, Eckman, Giambrone, McDaniel, Mora, Moran, Renden and Roland Adjunct Professor Sexton

> Associate Professors Bilgili, Blake, Conner and Ewald Assistant Professors Hess and Lien

- POULTRY SCIENCE (4). LEC. 3, LAB. 2. Fall, Spring. Principles of poultry production, including breeding, feeding, housing and diseases.
- 401. JUNIOR-SENIOR SEMINAR (1). Pr., junior standing. Fall. Experience in analyzing and presenting assigned subjects relative to the poultry industry.
- 402 POULTRY SCIENCE INTERNSHIP (5-15), departmental approval, S-U graded, To provide students with practical on-the-job training in the poultry business.
- 407-409. SUPERVISED AVIAN INVESTIGATIONS (3-3). LEC. 1, LAB. 4. Pr., junior standing and departmental approval. Investigation of some phase of avian science of interest to the student.
- 470. HONORS READINGS AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program: junior or senior standing. May be repeated for a maximum of six hours. Open only to poultry science students in the Honors Program with the consent of the Honors Program Advisor. Special topics of an undergraduate nature pertinent to poultry science.
- 471. HONORS THESIS (1-6). Pr., admission to University Honors Program; junior or senior standing. May be repeated for a maximum of six hours. Open only to poultry science students in the Honors Program with the consent of the Honors Program Advisor. Directed research and writing of honors thesis.

### ADVANCED UNDERGRADUATE AND GRADUATE

- 503. COMMERCIAL POULTRY PRODUCTION (5). LEC. 4. LAB. 3. Winter, even years. Principles of management of commercial poultry for meat and egg production.
- POULTRY FEEDING (5). LEC. 4, LAB. 2. Pr., PH 201. Fall, odd years. Composition and use of poultry feeds in connection with the demands for body growth, body maintenance and egg production.
- 506. POULTRY BREEDING, FERTILITY AND HATCHABILITY (5). LEC 4, LAB. 2. Pr., PH 201 ZY 300 or departmental approval. Spring, even years. Breeding systems used in developing modern breeds of poultry. Genetic and environomental factors affecting fertility, embryonic development and hatchability
- CONTROL OF POULTRY DISEASES AND PARASITES (4). LEC. 3, LAB. 2. Spring, odd years. Prevention, diagnosis, control and treatment of the common diseases of poultry.
- PROCESSING AND MARKETING (4). LEC. 3, LAB. 2. Pr., PH 503 or departmental approval. Spring, even years. Problems involved in processing and marketing poultry meat and eggs.
- 515. AVIAN REPRODUCTION AND ENVIRONMENTAL PHYSIOLOGY (4). LEC. 4. Pr., ZY 251 or 316. Spring, odd years. Reproductive processes and physiological responses to environmental stimuli in domestic poultry.
- 516. PRINCIPLES OF POULTRY AND MEAT PRODUCT SAFETY (4). LEC. 3, LAB. 3. Pr., MB 300, CH 203/207, Winter. Indentification and control of potential microbiological and toxicological hazards associated with foods of animal orgin.
- 593, PRACTICUM (1-5). May be repeated not to exceed 10 hours credit. Not open to majors in Poultry Science. Provides experience in poultry science closely relating theory and practice, usually carried on simultaneously.

# Psychology (PG)

Hudson Professor Harzem

Professors O'Leary, Chair, Burkhart, Buskist, Gynther, Hopkins, Johnston, Lewis,

McGlynn, Schaeffer, Tucker and Vuchinich Associate Professors McCoy and Newland

Assistant Professors Critchfield, El-Sheikh, Fleming, Lazarte and Shapiro Visiting Assistant Professor Babcock

- 201. INTRODUCTORY PSYCHOLOGY (5). Introduction to the various subfields of psychology.
- DEVELOPMENTAL PSYCHOLOGY (5). Introduction to cognitive, social and emotional development across the life span.
- 251. SELF-MANAGEMENT (5). How to organize, change and manage one's life.
- 252. PSYCHOLOGY AND SOCIAL ISSUES (5). Overview of the role psychology plays in addressing major social issues and problems.
- 253. DRUGS AND BEHAVIOR (5). Introduction to behavioral effects of drugs, including drug abuse and its treatment.

- ENVIRONMENTAL PSYCHOLOGY (5). Psychological phenomena involved in the interaction between people and the environment.
- RESEARCH METHODS IN PSYCHOLOGY (5). Pr., PG 201 or departmental approval. Survey of the
  use of descriptive and experimental methods in psychology.
- QUANTITATIVE ANALYSES IN PSYCHOLOGY (5). LEC. 3, LAB. 2. Pr., PG 201 and MH 160 or equivalent.
- 305. HISTORY OF IDEAS IN PSYCHOLOGY (5). Pr., PG 201 or departmental approval. The main ideas, through the centuries, having an influence on the study of psychological phenomena.
- APPLIED BEHAVIOR ANALYSIS (5), Pr., PG 201 or departmental approval. Behavioral principles in the management of human action.
- 351. BEHAVIORAL NEUROSCIENCE (5). Pr., PG 201 or departmental approval. Physiological bases of behavior with emphasis on the nervous system.
- PSYCHOLOGY OF LEARNING (5). LEC. 3, LAB. 2. Pr., PG 201 or departmental approval. Phenomena involved in the acquisition of knowledge, skills and patterns of action.
- 353. PSYCHOLOGY OF SENSING AND PERCEIVING (5). LEC. 3. LAB. 2. Pr., PG 201 or departmental approval. Perceptual phenomena and the structure and function of sensory systems.
- 354. PSYCHOLOGY OF THINKING AND REMEMBERING (5). Pr., PG 201 or departmental approval. Phenomena involved with thinking and remembering.
- ABNORMAL PSYCHOLOGY (5). Pr., PG 201 or departmental approval. Description, etiology and treatment of abnormal behavior.
- 357. PERSONALITY (5). Pr., PG 201 or departmental approval. Theories and research in personality.
- SOCIAL PSYCHOLOGY (5). Pr., PG 201 or departmental approval. Psychology of human social behavior.
- INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY (5). Pr., PG 201 or departmental approval. Psychology in business, industry and public organizations.
- 360. TRAINING AND SUPERVISION OF INDUSTRIAL PERSONNEL (5). Applications of the principles of learning to the motivation and training of factory, office and sales employees.
- 400. PSYCHOLOGY IN THE CRIMINAL JUSTICE SYSTEM (5). Pr., PG 201 or departmental approval. Psychological theory and research applied to the criminal justice system.
- PSYCHOLOGY OF WOMEN AND GENDER (5). Pr., PG 201 or departmental approval. Biological, social and cultural differences on gender similarities and differences.
- PSYCHOLOGY OF SEXUAL BEHAVIOR (5). Pr., PG 201 or departmental approval. Biological, social and psychological dimensions of human sexuality.
- 408. HEALTH PSYCHOLOGY (5). Pr., PG 201 and 352 or departmental approval. Psychological principles in health maintenance and health problems.
- INTRODUCTION TO CLINICAL PSYCHOLOGY (5). Pr., PG 201 and 356 or departmental approval. Assessment and intervention in clinical settings.
- 411. DEVELOPMENTAL DISABILITIES (5). Pr., PG 201 or departmental approval. Psychological principles in the care and treatment of developmentally disabled persons.
- 414. HUMAN SERVICE PRACTICUM (5). Pr., PG 201, 352, 411, 413 and departmental approval. Supervised experience in service delivery settings relevant to students' area of interest: industrial/organizational, criminal justice, mental health or developmental disabilities. May enroll only once. S-U Grading.
- DEVELOPMENT OF INFANTS AND CHILDREN (5). Pr., PG 201 or departmental approval. Human development from conception through development.
- ADOLESCENT DEVELOPMENT (5). Pr., PG 201 and 212 or departmental approval. Psychological development in adolescence.
- ADULT DEVELOPMENT (5). Pr., PG 201 and 212 or departmental approval. Psychological development from adolescence through adulthood.
- PSYCHOLOGY OF LANGUAGE (5), Pr., PG 201 and 352 or departmental approval. Acquisition and modification of language and its interactions with other psychological phenomena.
- 473. HONORS RESEARCH AND THESIS (1-5). Pr., admission to University Honors Program. Research in specialized topics.
- 490. HONORS READINGS AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program; junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor.

#### ADVANCED UNDERGRADUATE AND GRADUATE

501. CHILD AND ADOLESCENT PSYCHOPATHOLOGY (5). Pr., PG 201, 212 and 356 or departmental approval. Description, etiology and treatment of psychological disturbances in children and adolescents.

### Rehabilitation and Special Education

- 502. BEHAVIOR THERAPY (5): Pr., PG 201 and 352 or departmental approval. History, melhods and outcomes of behavior assessment and behavior therapy.
- TESTS AND MEASUREMENT (5). Pr., PG 303 or departmental approval. Theories of measurement and psychological testing with examples of their applications.
- 518. PSYCHOLOGY OF ENVIRONMENTAL DESIGN (5). Pr., departmental approval. Psychological knowledge significant in the effective design of objects and of broader environments.
- 550. INDEPENDENT STUDY (5). Pr., junior standing and departmental approval. Students may take up to 15 hours. Work under the direction of a faculty member on a psychological topic of mutual interest. Only five hours count toward the major.
- 551. SEMINAR IN PSYCHOLOGY (5). Pr., departmental approval. Seminar in research and theory in psychological topics.

# Rehabilitation and Special Education (RSE)

Professors Browning, Head, Darch, Eaves and Simpson Associate Professors Brown and McDaniel Assistant Professors Baird, Dunn, Reilly and Tate-Braxton Program Director Campbell-Whatley

B.S. in Ed., M.Ed., M.S. in Ed., Ed.S., and Ph.D. degrees are offered in the Department of Rehabilitation and Special Education. At the Bachelor's and Master's degree levels in Special Education, students are prepared for positions as teachers or clinicians in public schools and other agencies which serve exceptional children and youth. The Bachelor's and Master's degree programs in Rehabilitation prepares students for positions as vocational rehabilitation specialists, vocational evaluation specialists and rehabilitation facility administrators in public schools and other agencies serving exceptional youth and adults. The goal of the Ed.S. and Ph.D. programs is to prepare advanced graduate students to assume leadership positions in the areas of university teaching, research and administration of direct service programs for exceptional children and adults.

In the following RSE courses, the (*) denotes the course is offered only to participants in training programs for workshops and facility personnel in State and Regional offices of Vocational Rehabilitation. The (**) denotes that certain sections of common offerings are identified by use of letter designations as noted: (H) Mild Learning Handicapped, (L) Learning Disabilities, (M) Multihandicapped, (N) Speech-Language Pathology, (O) Emotional Disturbance, (P) Mental Retardation. (Q) General Rehabilitation and Special Education, (R) Rehabilitation and (S) Early Childhood Education for the Handicapped.

- 102. ORIENTATION FOR TRANSFER STUDENTS** (1). Helps transfers from other curricula and students outside the dual objectives program to understand teacher education and teaching as a profession.
- 104. ORIENTATION TO LABORATORY EXPERIENCES FOR TRANSFER** (1).
- 240. INTRODUCTION TO MANUAL COMMUNICATION WITH THE DEAF (4).
- 241. AMERICAN SIGN LANGUAGE (4). Pr., departmental approval.
- 300. CURRICULUM PLANNING FOR THE HANDICAPPED CHILD (N-4) (5). LEC. 4, LAB. 2. Pr., admission to Teacher Education, RSE 376, RSE 377 or RSE 378 or equivalent. Provides students with an understanding of a functionally/developmental approach to the selection, development, implementation and evaluation of appropriate curriculum activities for the instruction of mildly, moderately, and severely handicapped children, N-4. Content includes individualized and group approaches to curriculum.
- 301. CURRICULUM PLANNING FOR THE HANDICAPPED CHILD, GRADES 5-12 (6). LEC. 4, LAB. 2. Pr., admission to Teacher Education, RSE 376, RS E 377 or RSE 378 or equivalent. The design and implementation of appropriate curriculum modes for the handicapped in grades 5-12.
- 330. CAREERS IN REHABILITATION SERVICES (5). History, legal basis and fields of rehabilitation services. Exploration of specialty fields in medical and vocational rehabilitation such as occupational and physical therapy, speech pathology, social work, vocational evaluation, adjustment services and rehabilitation counseling. Emphasis on those working with disabled persons and adjustment to disability.
- 375. INTRODUCTION TO REHABILITATION AND SPECIAL EDUCATION (5). Pr., for RSE majors only or departmental approval. Introduction to the various areas of exceptionality with emphasis on the historical and research base associated with providing services to exceptional people.
- 376. SURVEY OF EXCEPTIONALITY (5). Pr., for non-RSE students majoring in the various fields of education, An introduction to the major categories of exceptionalities with an emphasis on the educational and training implications of each.

- 377. INTRODUCTION TO MENTAL RETARDATION (5). Pr., RSE 376 or departmental approval. An introductory exploration of mental retardation as a special type of exceptionality with emphasis on implications for the education and training of the retarded.
- 378. AN INTRODUCTION TO BEHAVIOR DISTURBANCE (5). Pr., RSE 376 or departmental approval. An introductory exploration of behavior disturbance as a special type of exceptionality with emphasis on implications for the education and training of the behavior disturbed.
- 414. ASSESSMENT TECHNIQUES IN REHABILITATION (3). LEC. 2, LAB. 2. Pr., junior standing. Selection, administration, scoring and interpretation of standardized achievement, aptitude, personality, dexterity, interest and intelligence measures. Special emphasis is given to current criterion-referenced measures.
- 415. BEHAVIOR CHANGE AND PROFESSIONAL COMMUNICATION IN REHABILITATION (3-5). LEC. 2, LAB. 2. Pr., junior standing. Theory and application of basic behavior change techniques useful in job coaching/supported employment settings. Ecological vocational evaluation strategies including job site analysis and modification are included. Analysis and synthesis of data into a professional report.
- 420. ORGANIZING INSTRUCTION FOR SPECIAL EDUCATION** (5). LEC. 4, LAB. 4. Pr., RSE 376, 378 or departmental approval. Provides the student with skills necessary to organize the special education instructional program in area of specialization.
- 421, EDUCATIONAL DIAGNOSIS AND ASSESSMENT IN SPECIAL EDUCATION **(5), LEC. 4, LAB. 2. Pr., FED 400. Application of concepts in measurement and evaluation in education: Selection/Construction of instruments, collection, summation and interpretation of diagnostic/assessment data. Emphasis is on diagnostic/assessment instruments most appropriate for referred exceptional students.
- 425. PROFESSIONAL INTERNSHIP** (15). Pr., senior standing, admission to Teacher Education prior to Internship, appropriate professional courses. Provides supervised, on-the-job experiences in a school, college or other appropriate setting. These experiences will be accompanied by regularly scheduled discussion periods to provide positive evaluation and analysis of the intern experience.
- 446. DIRECTED INDEPENDENT STUDY** (1-10). The student's learning efforts are guided toward desired objective. Includes evaluation by professor and student of work accomplished at regular intervals.
- SPECIAL TOPICS** (1-5). Seniors and professors pursue cooperatively selected concepts and theoretical formulations.
- 479. METHODS AND MATERIALS FOR TEACHING IN SPECIAL EDUCATION** (5).Pr., RSE 375 or 376 and 420.
- 495. PRACTICUM** (1-10). Provides experiences relating theory and practice, usually carried on simultaneously.

### ADVANCED UNDERGRADUATE AND GRADUATE

- 505. NATURE AND NEEDS OF THE GIFTED AND TALENTED (4). Provides opportunities for students to develop knowledge about the field of gifted education and awareness of the nature and needs of high ability children. Emphasis on history, philosophy and underlying assumptions of gifted education, identification and characteristics of high ability children.
- 510. OCCUPATIONAL INFORMATION (3). LEC. 2, LAB. 2, Pr., junior standing. (Also listed as VED 510.)
- 529. LEARNING DISABILITIES (5). Pr., RSE 375 or 376 or 600 or departmental approval, junior standing. Theoretical issues, research, diagnosis and educational approaches involved with children with learning disabilities. Observations of educational settings for children with learning disabilities are required.
- 530. EVALUATION AND TRAINING IN VOCATIONAL REHABILITATION" (4). LEC. 3 HOURS DAILY FOR 6 WEEKS, INTERNSHIP 4 WEEKS, Pr., junior standing. Purposes, principles and techniques of client evaluation and training, including personal, social and physical adjustment, vocational choice and selected techniques used in the evaluation and training process.
- 531. RESEARCH IN EVALUATION AND TRAINING IN VOCATIONAL REHABILITATION* (4). LEC. 3 HOURS DAILY FOR 6 WEEKS, INTERNSHIP 4 WEEKS. Pr., junior standing. A problem using research techniques, to be selected in consultation with the supervising professor.
- 532. INSTRUCTIONAL PROGRAMS IN WORKSHOPS AND REHABILITATION FACILITIES* (5).
- 533. MANAGEMENT OF VOCATIONAL REHABILITATION WORKSHOPS AND FACILITIES" (5).
- 535. INTRODUCTION TO VOCATIONAL EVALUATION (5). Pr., junior standing. History, philosophy, theoretical bases and present status of vocational evaluation. Survey of the vocational evaluation process, principles, techniques and procedure. Innovative methodology and future trends in vocational evaluation are explored.
- 536. SYSTEMS OF VOCATIONAL EVALUATION (3). LEC. 1, LAB. 4. Pr., VED 535, junior standing. Instruction and supervised practice in the application of the GATB, the JEVS system, the TOWER system, the Singer/Graflex system and related techniques of vocational evaluation.

- 537 TRANSITION AND COMMUNITY-BASED REHABILITATION (5.) Pr., junior standing. The legislative and philosophical components of community-based rehabilitation. Principles for providing occupational orientation and work experience techniques, curriculum planning, job classification and evaluation, selection and placement in the context of school-to-work transition programs. Students work with local school systems to develop realistic individualized transition plans.
- WORK ADJUSTMENT IN REHABILITATION (5). Pr., junior standing. 10 hrs. Psych., 10 hrs. Rehab. History, development, theoretical base and techniques of work adjustment in rehabilitation.
- 542. SURVEY REHABILITATION WITH THE BLIND AND VISUALLY HANDICAPPED (4).
- 543. VOCATIONAL EVALUATION AND ADJUSTMENT OF BLIND AND VISUALLY HANDICAPPED (4).
- 544. SURVEY OF REHABILITATION WITH DEAF AND HEARING IMPAIRED (4).
- 546. VOCATIONAL EVALUATION OF DEAF AND HEARING IMPAIRED (4).
- 549. SYSTEMS OF VOCATIONAL EVALUATION FOR THE RETARDED (3). LEC. 1, LAB. 4. Pr., RSE 535, junior standing. Instruction and supervised practice in the development, evaluation and application of commercial systems of vocational evaluation for use with the mentally retarded.
- 550. LANGUAGE DEVELOPMENT FOR THE YOUNG HANDICAPPED CHILD (5). Pr., junior standing and departmental approval. Systematic approach to intervention programming for communication development with handicapped children.
- 556R. LEARNING RESOURCES IN AREA OF SPECIALIZATION** (4). Pr., junior standing. Introduction on the use of microcomputers and technology by persons with disabilities and professionals serving such persons.
- 580. EDUCATION OF CHILDREN WITH SPECIAL LEARNING DISABILITIES (5). Pr., RSE 375 or 376, 529, junior standing and departmental approval. Existing theories and instructional programs for children with special learning disabilities. Administrative arrangements, classroom management, individual educational evaluation and programming are emphasized.
- 585. THE MODERATELY MENTALLY RETARDED (3). The child functioning in the moderate mental relardation range with emphasis on the implications for the education and training for this population.
- 586. THE SEVERELY MULTIPLY HANDICAPPED (3). Children and youth functioning at the severe or profound mental retardation level with concomitant problems, such as behavior, sensory and physical handicaps. Emphasis will be on identification and educational programming
- 587. PARENT EDUCATION FOR HANDICAPPED CHILDREN (4), Pr., RSE 375 or 376. Provides students with an understanding of the concerns of families with handicapped children and program options and techniques for effective communication with family members.
- 588. EDUCATIONAL APPROACHES WITH HANDICAPPED INFANTS AND TODDLERS (4). Pr., RSE 375 or 376. Provides students with an understanding of the developmental stages in infancy through two years, activities appropriate at each stage and techniques for stimulating the child who is not developing at the normal rate.

# Religion (RL)

### Professors Penaskovic, Head, and Dawsey

- 201. INTRODUCTION TO RELIGION (3). Major themes in religion, including religious experience, religion and society and the diversity of religion. Examples from various religious traditions.
- INTRODUCTION TO THE OLD TESTAMENT (5). Historical-critical study of the Old Testament in its cultural setting. Emphasis on development of Old Testament thought.
- INTRODUCTION TO THE NEW TESTAMENT (5). Historical-critical study of the New Testament in its cultural setting. Major issues in New Testament study.
- HISTORY OF CHRISTIANITY (5). Development of Christianity from 100 A.D. to the present. Major personalities, events and movements.
- 245. THE CURRENT RELIGIOUS SCENE (5). Religious themes and developments in contemporary American life.
- INTRODUCTION TO SPIRITUALITY (4). Spiritual growth and development in the context of the major world religions.
- INTRODUCTION TO JUDAISM (3). Treats the biblical beginnings of the Jews, focusing on the Scriptures, the calendar, etc.
- 290. THE HOLOCAUST (3). Examines the history, theology and psychology of the Holocaust, the mass extermination of Jews by the Nazis.
- 300. THE FIRST CHRISTIANS (3). Literature, thought and practices of earliest Christianity.
- EASTERN RELIGIONS (5), Hinduism, Buddhism and Confucianism with secondary attention to other Asian religions.
- WESTERN RELIGIONS (5). Islam, Judaism and Christianity with secondary attention to Druze religion and Bah'ai.

### Sociology, Anthropology and Social Work

- 320. JESUS (5). Pr., RL 220. Jesus as portrayed in the New Testament and subsequent interpretations.
- 325. PAUL (5). Pr., RL 220. Life, letters and thought of the Apostle Paul.
- RELIGION IN AMERICA (5). Religious activities, institutions and personalities in North America from the Colonial Period to the present.
- 20TH CENTURY RELIGIOUS THOUGHT (5). Pr., one course in religion. Major 20th century theologians Protestant, Catholic, Jewish.
- 450. SEMINAR (3-5). Pr., RL 201. An intensive examination of a major topic in religious studies.
- 460. HONORS READINGS AND SPECIAL TOPICS (3-5). Pr., admission to AU Honors Program; junior or senior standing. May be repeated for a maximum of five hours. Open only to students in the Honors Program.
- READINGS IN RELIGION (3-5). Pr., junior standing and departmental approval. A program of independent study on a special topic. May be repeated for credit.

## Sciences and Mathematics (SM)

- 101. CONCEPTS OF SCIENCE (5). Interdisciplinary course which presents major scientific concepts in a way that demonstrates the interdependence of chemistry, physics, biology and geology. Stresses the interaction between the sciences and the humanities and impact of sciences on everyday life. Credit will not be allowed for both SM 101 and BI 105.
- 199. PRE-HEALTH PROFESSIONS ORIENTATION (1). Orientation and guidance for all freshmen planning to seek admittance to health professions schools, such as medicine, dentistry, optometry, physical therapy, pharmacy, occupational therapy, veterinary medicine and podiatry.
- 399. HOSPITAL EXPERIENCE (1). LAB. 2. Pr., junior standing and departmental approval. Direct observation and interaction with physicians at EAMC in areas, such as pediatrics, internal medicine, psychiatry, family practice, orthopedic surgery, general surgery, emergency dept., radiology and OB/GYN.

# Sociology (SOC), Anthropology (ANT) and Social Work (SW)

Professors Kowalski, Chair, Faupel, Mohan, Starr and Wilke Associate Professors Adams, Cottier, Gundlach and Petee Assistant Professors Alley, Cameron, Etten, Hanke and Spalding Instructors Burque and Myers Joint appointees: Professors Dunkelberger and Molnar

### SOCIOLOGY (SOC)

- 201. INTRODUCTION TO SOCIOLOGY (3). Principles and processes of society. Open to freshmen.
- SOCIAL PROBLEMS (5). Pr., SOC 201. A sociological analysis of current social problems such as crime, mental illness, race relations, poverty, aging, etc.
- 203. POPULATION AND SOCIETY (5). A survey of theories and research on how the demographic processes interact with such social institutions as the economy, education, family, medicine, science and technology.
- 204. SOCIAL BEHAVIOR (5), Pr., SOC 201 or PG 211. Integrated social psychological factors which influence or determine human behavior; the emphasis is upon the normal individual and/or group situations.
- STATISTICS (5). Pr., SOC 201. Basic statistical concepts, measures, and techniques used in sociological reports and research.
- SOCIOLOGY OF THE FAMILY (5). Pr., SOC 201. The American family in perspective. Theory and method in sociological studies of the family.
- 304. MINORITY GROUPS (5). Pr., junior standing, Various and diverse social minority groups with emphasis on creation and maintenance of minority and dominant group status within the American stratification system.
- SOCIOLOGY COLLOQUIUM (1). Pr., SOC 201. Orients sociology majors toward major substantive fields of the discipline. May be repeated for maximum of three credit hours.
- 360. INTRODUCTION TO SOCIAL EPIDEMIOLOGY (5). Pr., SOC 201. The influence of social conditions and demographic characteristics on health and well-being, emphasizing social aspects of major diseases and other problems such as mental disorders, suicide, homicide, divorce and family violence.
- METHODS OF SOCIAL RESEARCH (5). Pr., SOC 201 or RSY 261. Principal methods of data collection and analysis in sociological research. Same as RSY 370. Credit in RSY 370 precludes credit in SOC 370.
- SOCIAL THOUGHT (5). Pr., SOC 201 or equivalent. Focus on pre-Comtian ideas bearing on the definition and emergence of social and behavioral theory.

- SOCIAL CHANGE (5), Pr., SOC 201 or equivalent. Major theoretical and research perspectives in social and developmental change.
- SOCIOLOGY OF AGING (3), Pr., SOC 201. A social-cultural treatment of the phenomena of aging emphasizing recent theory and research.
- 478. SEMINAR IN SOCIOLOGY OF LAW (3). Pr., SOC 201, junior standing. The structure and functioning of the American legal system analyzed with cross-cultural comparisons and institutional interrelations examined. Case method approach is used.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 502. SOCIAL THEORY (5). Pr., SOC 201 or equivalent. Survey of theorists from Comte to the present; emphasizes theory construction, theoretical analysis and differences in theoretical approaches.
- 504. SOCIOLOGY OF POWER (5). Pr., SOC 201. A systematic concern with the dimensions and distribution of power in social life.
- 505. URBAN SOCIOLOGY (5). Growth and decline of cities with emphasis on ecological and demographic characteristics, associations and institutions, class systems and housing and city planning.
- PUBLIC OPINION AND PROPAGANDA AND MEDIA (5). Pr., SOC 201. A survey of social communication emphasizing the formation, use and assessment of publics, ideologies and opinions in mass society.
- 508. INDUSTRIAL SOCIOLOGY (5). Pr.. SOC 201. The sociological approach to business organization and industrial relations. Emphasis given to organization principles operative in the economic life within a social system such as a factory or business establishment.
- 509. SOCIOLOGY OF RELIGION (5). Pr., SOC 201 or equivalent. Analysis of religion as a social institution as found in the world's great religions.
- 511. THIRD WORLD DEVELOPMENT (3-5). Pr., SOC 201 or equivalent. Major theoretical perspectives and research accomplished concerning efforts to promote the social and economic development of Third World countries.
- 514. FIELD INSTRUCTION (1-10). Supplementary instruction concurrent with experience in some field of work involving application of sociological perspectives to community life. May be repeated for a maximum of 10 hours credit.
- SOCIAL STRATIFICATION (5). Pr., SOC 201. Stratification as a fundamental feature of all societies.
   Past thought and current research and theory on structured social inequalities is systematically developed.
- 518. SOCIOLOGY OF OCCUPATIONS (5). Pr., SOC 201. Comprehensive examination of specific occupational categories ranging from professional to service occupations. Emphasis is placed on the relationship of occupational structure and institutions and the meaning of occupations for individuals and society.
- 520. RACIAL AND ETHNIC RELATIONS (5). Pr., 10 hours of SOC or equivalent. Utilizes cross-cultural data to describe situations in which race or ethnicity affect human behavior. These data interpreted by delineating patterns, trends and relationships.
- 522. SPECIAL TOPICS IN SOCIOLOGY (1-5), Pr., SOC 201 or equivalent. Examines selected topics from a sociological perspective. May be repeated for a maximum of 10 hours.
- 525. SEMINAR IN SOCIAL DEVIANCE (5). Pr., SOC 201 or equivalent. Analysis of factors in the creation of and reaction to social deviance. Examines various theoretical approaches to deviance, with particular emphasis on how behavior comes to be defined as deviant.
- 534. SOCIALIZATION (5). Pr., SOC 201. Examines an important and distinct sociological tradition: mind, self, society and interaction as symbolic phenomena grounded in social processes. Covers major intellectual influences, concepts and figures (e.g., James, Mead, Cooley).
- 550. DIRECTED READING (1-5). An independent reading program, under supervision, to provide for the pursuit of specific interests in sociology not covered by other course offerings. May be repeated for a maximum of 10 hours credit.
- 577. SEMINAR IN MEDICAL SOCIOLOGY (5). Pr., SOC 201 or equivalent. The nature and organization of medical practice and health delivery systems. Special attention to role of physicians and various views of patients and disease. Relationship between culture, politics and health.

### RURAL SOCIOLOGY (RSY)

For course descriptions, see Department of Agricultural Economics and Rural Sociology.

- 261. INTRODUCTION TO RURAL SOCIOLOGY (3). Credit not allowed in this course and SOC 201.
- 362. COMMUNITY ORGANIZATION (5).
- 370. METHODS OF SOCIAL RESEARCH (5). Pr., RSY 261 or SOC 201.
- APPLIED RESEARCH METHODS AND PROGRAM EVALUATION (3). Credit not allowed in this and in RSY or SOC 370.

- 499. DIRECTED STUDIES IN RURAL SOCIOLOGY (1-5).
- 541. EXTENSION PROGRAMS AND METHODS (5).
- 561. RURAL SOCIOLOGY (5).
- 564. SOCIOLOGY OF COMMUNITY DEVELOPMENT (5).
- 565. SOCIOLOGY OF NATURAL RESOURCES AND ENVIRONMENT (5).

### ANTHROPOLOGY (ANT)

- 200. BIOSOCIAL BACKGROUND (3). Introduction to the physical and cultural evolution of the human species with emphasis on the fossil record, contemporary human populations and archaeological theories and methods.
- CULTURAL FRAMEWORK (3). Introduction to cultural anthropology and linguistics, emphasizing the comparative analysis of life ways among both pre-literate and literate populations and societies.
- CULTURAL ANTHROPOLOGY (5). Pr., ANT 201. The nature of culture. Comparative approach to the principal institutions of human society and basic categories of human behavior.
- INTRODUCTORY ARCHAEOLOGY (5). The history, principles and methods for investigating and reconstructing past cultures.
- HISTORY OF ANTHROPOLOGICAL THEORY (5). Pr., ANT 201. The development of ethnological theory.
- CULTURE AND PERSONALITY (3). Pr., SOC 201 or ANT 201. Socio-cultural factors in personality development and recent studies in character types.
- INTRODUCTION TO PHYSICAL ANTHROPOLOGY (5). LEC. 3, LAB. 3. Pr., ANT 201. Human origins and development; contemporary primate varieties, using a genetic and anthropometric approach.
- 313. THE ANTHROPOLOGY OF GENDER (5). Pr., ANT 201 or SOC 201. An anthropological and sociological analysis of the status of women in societies, the cultural belief systems involved and problems resulting from status change. (A Women's Studies Minor Course.)
- 314. ANTHROPOLOGY OF WORK (3). Pr., junior standing. Anthropological theory and data applied to problems of various work settings.
- 340. ARCHAEOLOGICAL FIELD SCHOOL (5-10). A field methods course, in which archaeological site surveying, excavation and analysis procedures are taught with student participation in directed research projects at a selected archaeological site.
- 345. ARCHAEOLOGICAL FIELD PROBLEMS (1-3), Pr., ANT 200. A practical investigation of a specific archaeological field problem or problems that involves archaeological excavation techniques, field mapping and data recording.
- CULTURE, MARRIAGE AND THE FAMILY (5). Pr., ANT 201 or SOC 301. The comparative study of human patterns of marriage, child rearing, inheritance, descent and kinship.
- 403, CONTEMPORARY ANTHROPOLOGY (5). Pr., ANT 201, junior standing. Contemporary research and theory regarding traditional and urban cultures.

### ADVANCED UNDERGRADUATE AND GRADUATE

- LABORATORY TECHNIQUES IN ARCHAEOLOGY (3-5), Pr., ANT 207. An archaeological methods
  course in the analysis, preservation, cataloging and restoration of archaeological materials
- 505. ARCHAEOLOGICAL LABORATORY PROBLEMS (1-3). Pr., ANT 500. Investigates a specific archaeological problem or problems and involves students in laboratory techniques such as data recording, photography and report preparation.
- 511. LANGUAGE AND CULTURE (5). The social basis of verbal communication; functions of language in society; importance of language in contemporary social problems.
- 512. GENERAL ETHNOLOGY (5). Surveys ethnological data from several societies in order to provide an understanding of the range and variability of cultural phenomena.
- 524. SPECIAL TOPICS IN ANTHROPOLOGY (1-5). Pr., ANT 201 or equivalent. Examines selected topics from an anthropological perspective. May be repeated for a maximum of 10 hours.
- 531. SOUTHEASTERN ARCHAEOLOGY (5). Pr., ANT 207. Survey of the findings of archaeologists working Southeastern North America, detailing the diversity and complexity of prehistoric to protohistoric Indian cultures.
- INDIANS OF NORTH AMERICA (5). Aboriginal cultures of North America. Effects of culture contact.
   Contemporary problems of Indian communities.
- 534. MESOAMERICAN ARCHAEOLOGY (5). Pr., ANT 207. A survey of the prehistoric cultures of Mexico and Central America, with particular emphasis on the Olmec, Toltec, Maya and Aztec cultures.
- 540. HISTORICAL ARCHAEOLOGY AND ETHNOHISTORY (5). A review of the methods and findings of these two subfields, with emphasis on anthropological approaches to the past culture and history of peoples who left few written records: slaves, Indians, lower classes.

### Sociology, Anthropology and Social Work

- 550. DIRECTED READING (1-5). Pr., junior standing. An independent reading program, under supervision, to provide for the pursuit of specific interests in anthropology not covered by other course offerings. Can be repeated for a maximum of 10 hours credit.
- SENIOR THESIS IN ANTHROPOLOGY (3). Pr., senior standing. Independent reading and/or research in selected fields of anthropology. Requires a thesis in anthropology.
- SPECIAL TOPICS IN ETHNOLOGY (5). An intensive study of peoples and cultures from a particular geographical area of cultural adaptation.

### CRIMINOLOGY (SCR)

- CRIMINOLOGY (5). Pr., SOC 201. Measurement and distribution of crime; major theoretical perspectives pertaining to crime causation.
- JUVENILE DELINQUENCY (5). Pr., SOC 201. Major theoretical perspectives, measurement and distribution; historical perspectives on youth crime and delinquency.
- JUVENILE JUSTICE (5). Pr., CR 302 or 308. Historical development, policies, operations and unique issues and problems related to the juvenile justice system in the United States.
- 420. PROBATION AND PAROLE (5). Pr., CR 302 or 308. Practices of probation and parole in the U.S. chminal justice system. Emphasizes the historical development of these fields and various issues faced by contemporary practitioners.
- PENOLOGY (5), Pr., CR 302 or 308. Underlying rationale and viability of the major perspectives influencing contemporary correctional policies.
- SOCIOLOGY OF CRIMINAL LAW (5). Pr., SOC 201 or equivalent. Examines how and under what
  conditions behavior comes to be defined as criminal and how legal codes interact with other normative systems in society.
- 501. DRUGS AND SOCIETY (5). Pr., CR 302 or CR 308, junior standing. Emphasizes the social context and correlates of drug usage, relationship with crime and delinquency, the nature of societal reaction and pertinent sociological theories concerning drug related behavior.
- WOMEN IN THE CRIMINAL JUSTICE SYSTEM (5). Pr., SOC 201 or equivalent. The impact of gender within criminal justice from a sociological perspective: females as victims, offenders and/or practitioners.
- 514. FIELD INSTRUCTION IN CRIMINOLOGY (1-10). Supplementary instruction concurrent with experience in some field of work related to Criminology. May be repeated for a maximum of 10 hours credit.
- 515. POLICE AND SOCIETY (5). Pr., SOC 201 or equivalent. The social organization of police, police subcultures, socialization of police officers, decision-making and discretion and the relationship between police and other components of the criminal justice system.
- 520. VICTIMOLOGY: CRIMINAL—VICTIM RELATIONSHIPS (5). Pr., SOC 201 or equivalent. The impact of victimization upon the victim, offender and society and addresses the relationship between the victim and offender.
- 530. CONTEMPORARY CORRECTIONS (5). Pr., CR 302 or 308, junior standing. Historical development and theoretical rationales underlying corrections in the U.S. criminal justice system, as well as, major issues faced by contemporary practitioners.
- 555. DIRECTED READINGS IN CRIMINOLOGY (VARIABLE CREDIT). An independent reading program, under supervision, to provide for the pursuit of specific interests in criminology not covered by other course offerings. May be repeated for a maximum of 10 hours credit.

### SOCIAL WORK (SW)

- 320. SOCIAL WORK FIELD PRACTICUM (1-5). An introduction to the fields, methods and settings of social work practice through an internship in a selected social work setting. Stresses a basic understanding of social service organizations. Students work under the joint supervision of the placement agency and the university. A seminar is held regularly to evaluate, discuss and interpret the student's work. Social Work majors must earn four hours credit. May be taken by any major for a maximum of five hours credit.
- 375. INTRODUCTION TO SOCIAL WELFARE (5). Pr., sophomore standing. The development of U.S. social welfare programs, policies and services. Emphasizes political, economic and social factors involved. Introduction to health and welfare services of local community.
- 376. COMMUNITY SOCIAL SERVICES (5). A review of the social services available in a typical community in areas of health, income, housing, crises, child welfare, legal and mental health. Addresses procedures in linking clients with services and work with minorities, the aged, families and groups.
- 377. CHILD WELFARE (5). Reviews practice in child abuse and neglect, foster care, child care and adoptions. Addresses work with minorities, court procedures and worker stress. Opportunity for experience.

### Textile Engineering

- 380. HUMAN BEHAVIOR IN THE SOCIAL ENVIRONMENT I (5). Pr., SOC 201. Integration of social science perspectives for the social work student. Survey interpretations of biological, socio-psychological and cultural determinants of behavior for social work practice. Focus is on individual, lamily and small group levels.
- 381. HUMAN BEHAVIOR IN THE SOCIAL ENVIRONMENT II (5). Pr., SW 380. Integrates social science perspectives through a survey of interpretations of biological, social, psychological and cultural determinants of behavior for social work practice. Emphasis is on human behavior in formal organization and communities.
- 385. AGING ISSUES AND SERVICES (2-5). Pr., SOC 201, SW 375 or equivalent. Reviews social services and social work with elderly and issues in economics, religion, health, mental health, politics, mass media education, biology, housing, nutrition and recreation. Field work option.
- 420. SOCIAL WORK FIELD PLACEMENT (15). Pr., SW 508. A planned field experience in which the student is placed in a community service agency, working full-time under the joint supervision of the agency and the University. A seminar is held regularly to evaluate, discuss and interpret the student's work. An applied research project must be completed during the quarter.
- 426. SPECIAL TOPICS IN SOCIAL WORK (1-5). Pr., SOC 201 or equivalent, junior standing. Examines selected topics from a social work perspective. May be repeated for a maximum of 10 hours credit.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 506. SOCIAL WORK METHODS I (5). Pr., SW 320, 375, 376 and admission to social work program or departmental approval. The first in a sequence of social work practice method courses focusing on the application of knowledge value and skill in carrying out a problem-solving, systems oriented approach with clients at the individual, small group, organization and community level. Emphasis on application of research, process of social change, non-judgmental practitioner stance and regard for cultural, racial, age and lifestyle variations.
- 507. SOCIAL WORK METHODS II (5). Pr., SW 506. Continuation of SW 506.
- 508. SOCIAL WORK METHODS III (3). Pr., SW 507. Continuation of SW 507.
- 575. SOCIAL WELFARE POLICY (5). Pr., SW 375 or equivalent, Current problems, policy issues and proposals in selected social welfare programs are critically examined and evaluated.

# Textile Engineering (TT, TC, TE and TMT)

Professors Walsh, Head, Broughton and Hall Associate Professor El-Mogahzy Assistant Professor Adanur and Gowayed Adjunct Professor Teague

General Curriculum, CLA, students (those with undeclared majors) may enroll only with departmental consent.

#### DEPARTMENTAL COURSES (TT)

- INTRODUCTION TO TEXTILES (1), LAB. 3. Freshman orientation to textile programs and options and an introduction to textile terminology.
- 102. SURVEY OF THE TEXTILE INDUSTRY (1). LAB. 3. Pr., TT 101 or departmental approval. Introduction to the scope of the textile industry stressing use of library and interaction with local industry and faculty of the department.
- TEXTILE CAREERS (1), LAB. 3. Pr., TT 102 or departmental approval. Coreq., CSE 100 or 120. A review of career options available to graduates from textile degree programs.
- 211. YARN FORMING SYSTEMS I (5) LEC. 4, LAB, 3. Forming of staple and filament yarns. Interactions between raw materials and manufacturing systems that create specified product characteristics.
- FABRIC FORMING SYSTEMS (5). LEC. 4, LAB. 3. The basic forming systems for textile fabrics including knit, woven and non-woven structures.
- 270. STATISTICS FOR TEXTILE PROCESS CONTROL (5). Pr., sophomore standing. Sampling and analysis of textile data. Fiber selection statistics and methods of handling textile attribute data. Application of Taguchi quality engineering concepts in the textile discipline.
- 299. INDUSTRY PROJECTS (3). Pr., sophomore standing and departmental approval. A directed project in an industrial setting addressing current, significant problems identified by the industrial sponsor. May be taken twice as elective credit.
- 350. TESTING OF TEXTILE MATERIALS (4). LEC. 2, LAB. 6. Pr., TT 211 and 221. Basic principles of measuring the physical and chemical properties of natural and man-made textile materials; included supplementary laboratory experiments.
- 471. HONORS READINGS AND SPECIAL TOPICS (3-6), Pr., admission to University Honors Program; junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor.

479. HONORS THESIS (3). Pr., senior standing, Individual student endeavor consisting of directed research and writing of honors thesis. (Honors Program students only. May be taken more than once and may be substituted for TC 490/491, TE 490/491 or TMT 490/491).

## TEXTILE CHEMISTRY (TC)

- SPECIAL TOPICS (1-5). Pr., departmental approval. Reading course with varying emphases to give student opportunity for overview in specific areas of textile technology. (May be repeated for up to 10 credits).
- APPLIED DYEING THEORY (4). Pr., TE 341. Dye fiber bonding; thermodynamics and kinetics of dyeing.
- UNDERGRADUATE RESEARCH I (3). Pr., senior standing. Initial quarter of an undergraduate research sequence.
- UNDERGRADUATE RESEARCH II (3). Pr., TC 490 or TT 479. Conclusion of an undergraduate research sequence. (May be taken more than once with departmental consent.)

### ADVANCED UNDERGRADUATE

560. TEXTILES FINISHES (4). Pr., TE 341 or departmental approval, Textile finishing processes, machinery and developing technology are covered. Both mechanical and chemical finishing are included. Emphasis is on the theory of application, the mechanism by which the finish works, and its effect on fabric properties.

### TEXTILE ENGINEERING (TE)

- 331. STRUCTURE AND PROPERTY OF FIBERS (4). Pr., CH 208. The use of a fiber depends on its properties and these properties in turn depend on the chemical structure and morphology of the fiber. These interrelationships between structure, property and use are explored.
- 332. FIBERS LABORATORY (2). LAB. 6, Coreq., TE 331. A fibers laboratory to accompany TE 331 will include microscopic and chemical techniques of fiber identification and chemical and physical methods useful in the preparation and analysis of fibers.
- TEXTILE CHEMICAL PROCESSES I (4). LEC. 3, LAB. 3. Pr., TE 331, 332. Principles and processes
  for bleaching, dyeing and finishing of textile yams and fibers. Emphasis is on the coloration of textiles,
  the chemical principles of dyeing and finishing.
- 341. TEXTILE CHEMICAL PROCESSES II (4). LEC. 3, LAB. 3, Pr., TE 340. Continuation of TE 340 with emphasis on mechanical aspects of dyeing and finishing, qualify control and process control.
- 355. APPLICATION OF NUMERICAL METHODS FOR DESIGN IN TEXTILES (3). LEC. 2, LAB. 3. Pr., TT 211, 221, 270, TE 360. The use of numerical methods in the design of textile materials.
- 360. MECHANICS OF FLEXIBLE STRUCTURES (5). Pr., MH 265. Analysis of mechanical behavior and physical properties of one and two dimensional flexible structures; such as fibers, yams and fabrics. The influence of geometrical structure and material properties on the mechanical properties of flexible structures will be undertaken.
- SPECIAL TOPICS (1-5). Pr., departmental approval. Reading course with varying emphases to give student opportunity for overview in specific areas of textile technology. (May be repeated for up to 10 credits).
- 425. ENGINEERED TEXTILE STRUCTURES (3). LEC. 3. Pr., TT 211, 221, TE 360. Design, manufacturing, testing and applications of high performance industrial textiles including geotextiles, textiles for architecture/construction, transportation, military/defense, safety/medical and textile structures for composites and paper machine clothing.
- 450 TEXTILE REINFORCED MATERIALS (3). Pr., TT 221, TE 331, 360. Material properties and manufacturing of textile reinforced materials; weaves and braids preform structures; analysis, design methodology and applications.
- 460. MECHANICS OF TEXTILE MANUFACTURING PROCESSES AND SYSTEMS (4). LEC. 3, LAB. 3. Pr., EGR 205, 235, TT 211, 221, MH 264. Engineering analysis of mechanisms used in modern textile machinery for production of fibers, yarns and fabrics. Design and operation of these mechanisms and their impact on the products. Production sequences, inter-machine effects, machine design and their consequences on the textile product. Interaction between machine parameters and textile product properties.
- TEXTILE ENGINEERING DESIGN I (3). Pr., senior standing. Initial quarter of an undergraduate research sequence.
- 491. TEXTILE ENGINEERING DESIGN II (3). Pr., TE 490 or TT 479. Conclusion of undergraduate research sequence (May be taken more than once with departmental consent).

# ADVANCED UNDERGRADUATE

562. ADVANCED MECHANICS OF FLEXIBLE STRUCTURES (3). Pr., TE 360 or departmental approval. Mechanical behavior of tiexible structures, based on the geometrical parameters and properties of their constituent materials.

### TEXTILE MANAGEMENT AND TECHNOLOGY (TMT)

- SURVEY OF TEXTILE TECHNOLOGY (3). Survey of the technology dealing with the manufacture of textiles, including fiber, yarn, fabric and coloration and finishing treatments. (Credit in TT 101, 102 and 103 precludes credit in TMT 200).
- 212. YARN FORMING SYSTEMS II (3). LEC. 2, LAB. 3. Pr., TT 211. An extension of TT 211. Mechanics of yams, geometry and properties of yams as influenced by processing techniques. Both conventional and non-conventional processes are explored.
- TEXTILE FIBERS I (5), LEC. 4, LAB, 3. Pr., CH 203. Natural and man-made fibers, their production, structure and properties. The relationship between polymeric fibrous materials, end products and utilization.
- 232. TEXTILES FIBERS II (3). LEC. 2, LAB. 3. Pr., TMT 231. An extension of TMT 231. Provides in-depth analysis of physical and chemical structure and resulting properties of textile fibers, Application of fiber theory to practical manufacturing situations.
- 241. DYEING AND FINISHING OF TEXTILE MATERIALS (5). LEC. 4, LAB. 3. Coreq., CH 104. Emphasis on principles and techniques to modify textile materials by coloration, additives and surface treatment. The chemistry of these phenomena is studied.
- 242. CHEMICAL TECHNOLOGY OF BLEACHING, DYEING AND FINISHING (3). LEC. 2, LAB. 3. Pr.. TMT 241. Bleaching, dyeing and finishing of fabrics made from natural and man-made fibers; dyes and pigments for textiles, their chemical structure and utility.
- DEVELOPMENT AND ANALYSIS OF FABRICS (5). LEC. 3, LAB. 6. Pr., TT 221. Design limitations
  and analysis techniques for primary fabric structures are presented. Students required to reconstruct
  specifications from samples.
- 322. NON-CONVENTIONAL FABRIC STRUCTURES (2), Pr., TT 221, TMT 231, Methods of fabric forming other than conventional weaving or knitting are surveyed. More emphasis is placed on specific methods of greater economic significance.
- 325. DESIGN OF TEXTILE FABRICS (1-5). Pr., departmental approval, junior standing. Individual student projects involving technical fabric drafts for selected fabric types, including woven, knitted and tufted structures. (May be repeated for up to 10 total credits).
- 352. TEXTILE QUALITY CONTROL (3). Pr., TT 270, 350. Practical application of quality control in the textile industry with emphasis on statistical control techniques. Topics include measures of variation, statistical quality control charts, sample size, confidence interval, significance testing, correlation and analysis of variance.
- 409. SPECIAL TOPICS (1-5). Pr., departmental approval. Reading course with varying emphases to give student opportunity for overview in specific areas of textile technology. (May be repeated for up to 10 credits).
- 480. PLANT OPERATION AND COST CONTROL (4). Pr., senior standing. Establishing the criteria and implementation of modification of operations including a plant changeover. The technical requirements, constraints, use of assets and procedure to determine and control manufacturing costs are included.
- UNDERGRADUATE RESEARCH I (3). Pr., senior standing. Initial quarter of an undergraduate research sequence.
- 491. UNDERGRADUATE RESEARCH II (3). Pr., TMT 490 or TT 479. Conclusion of an undergraduate research sequence. May be taken more than once with departmental consent.

## Theatre (TH)

Professor York

Associate Professors McAdams, Head, Miller and Lockrow Assistant Professors Jaffe, LaRocque, Robinson and Wetli

- INTRODUCTION TO ACTING (3). Exploration of the basic principles and processes of acting through lecture, discussion and concentrated laboratory work.
- 201. INTRODUCTION TO THE THEATRE (3). Appreciation of theatre arts including stage, television and film. Development of sensitivity and critical sophistication as articulate, discriminating theatregoers. Play and film viewing, play reading, critiques and term projects.
- INTERVIEW TECHNIQUES FOR THE CAMERA (2). Theory, rehearsal and specialized techniques for interviews in film and television.
- ACTING: AUDITIONS (1). Pr., TH 200 or departmental approval. Theories, techniques and realities of auditions: preparation of 4-5 pieces.
- BEGINNING VOICE FOR THE ACTOR I (2). Beginning work in voice in speech with emphasis on standard vowels for theatre speech.
- 212. INTERMEDIATE VOICE FOR THE ACTOR (2). Pr., TH 211, Exercises to strengthen the work begun in TH 211 with concentration in consonant usage and linkage.

#### Theatre

- ADVANCED VOICE FOR THE ACTOR (2). Pr., TH 212. Continuation of work from the previous two
  courses with concentration in tonal development.
- 214. BEGINNING ACTING (3). Pr., TH 200 or departmental approval. Basic performance techniques, utilizing improvisation, theatre games and other exercises to develop creative awareness.
- 218. MOVEMENT FOR THE ACTOR I (2), Pr., TH 200 or departmental approval. Theory and practice in training the body to serve as a means of communication for the actor.
- THEATRE TECHNOLOGY I (3). Principles and practice in the planning, drafting of work drawings, construction, painting, rigging and shifting of stage scenery. Practical experience.
- THEATRE TECHNOLOGY II (4). Pr., TH 231 or departmental approval. Practical application of new materials and techniques in the theatre, including plastics, metals and other non-traditional products.
- 240. THEATRICAL DESIGN (3). The elements of design used in the creation of theatrical space. Exploration of the fundamental visual design elements and materials with experimentation in their application to theatrical design. Practical utilization of design theory in various visual and theatrical design projects.
- 261. COSTUME CONSTRUCTION (3). Introduction to sewing skills, basic patterning, fabrics, fibers and dyeing.
- 265. STAGE MAKEUP (3). Basic principles and practice of stage makeup and makeup design including facial painting and techniques of prosthesis.
- 270. HONORS INTRODUCTION TO THE THEATRE (3). Pr., approval by the University Honors Program. Appreciation of theatre arts. Development of sensitivity and critical skills as theatregoers. Play attendance, reading, critiques and term projects. For students in the Honors Program.
- PLAY ANALYSIS (3). How to read a play with an examination of traditional and non-traditional scripts of various periods and genres.
- 272. DRAMATIC LITERATURE (3). A survey of several periods of playwriting giving a broad overview of many centuries of writing for the theatre. Includes literary, theatrical production and performance values.
- 281. THEATRE PRODUCTION I (4-8). Pr., departmental approval. Summer. Intensive study of theatre arts through participation in the AU Summer Repertory Theatre.
- 282. SUMMER REPERTORY THEATRE COMPANY (6-12). Pr., departmental approval, Summer. A concentrated workshop experience in all aspects of theatre production through participation in rehearsal and performance.
- 284. DANCE TECHNIQUES (2). Practical and theoretical introduction to dance through the study of ballet and jazz dance techniques and the history of contemporary dance personalities, companies and events.
- 285. BALLET I (2). Pr., TH 284 or departmental approval. A practical and theoretical study of classical ballet at the beginning level, supplemented by study of ballet and general dance history and contemporary dance personalities, companies and events. May be taken once.
- 286. BALLET II (2). Pr., TH 285 or equivalent. A practical and theoretical study of classical ballet at the advanced beginning/intermediate level, supplemented by a study of ballet and general dance history and contemporary dance personalities, companies and events. May be taken once.
- 287 JAZZ DANCE (2). Pr., TH 284. A practical and theoretical study of jazz dance at the beginning level, supplemented by study of jazz dance history and contemporary dance personalities, companies and events. May be taken once.
- TAP (2). Pr., TH 284, Beginning theory and practice in fundamentals and terminology. May be repeated once for credit.
- 300. THEATRE LABORATORY (1-2). Required of all theatre majors during every quarter of residency; a minimum of six hours required for graduation. Practice in various areas of arts and crafts of theatre, including construction and painting of scenery and properties, stage operation, lighting, sound, costuming, makeup, publicity and business management. Meets weekly for convocation session along with individual laboratory assignments.
- 306. CHILDREN'S THEATRE (3). Theatre for children, involving an examination of play scripts, acting, and production techniques.
- ACTING; PERFORMANCE TECHNIQUES FOR THE CAMERA (3). LEC. 2, LAB. 2. Pr., TH 200 or departmental approval. Theory, rehearsal and performance of specialized acting techniques for film and television.
- ACTING: PRACTICUM (1-2). Open to students cast in Auburn University Theatre productions. May be repeated for credit.
- STUDIO: VOICE I (2). Pr., departmental approval; B.F.A. degree candidacy required. Structural action on the Lessac system of vocal training.
- 312. STUDIO: VOICE II (2). Pr., TH 311. Consonant Action in the Lessac system of vocal training.
- 313. STUDIO: VOICE III (2). Pr., TH 312. Tonal Action in the Lessac system of vocal training.

- INTERMEDIATE ACTING (3). Pr., TH 214. Theory and techniques of character analysis and development.
- STUDIO: ACTING I (3). Pr., departmental approval and B.F.A. degree candidacy required. Internal acting process work.
- 316. STUDIO: ACTING II (3). Pr., TH 315. External acting technique.
- 317. STUDIO: ACTING III (3). Pr., TH 316. Shakespearean scene study
- 318. MOVEMENT FOR ACTOR (2). Pr., TH 218, departmental approval. Theory and practice in stage movement with practical experience in mime, stage combat, period dance, movement analysis. May be repeated up to 12 hours.
- STAGE MANAGEMENT (3). Basic principles of stage management, involving the duties of the stage manager in relation to production and personnel.
- 321. DIRECTING: FUNDAMENTALS (3). Pr., TH 200, 271 or departmental approval. Theories and techniques of stage direction; analysis of plays; preparation of production plans; practice in stage direction, including open casting and production of at least two scenes before an invited audience.
- 322. DIRECTING: ADVANCED (4). Pr., TH 321 or departmental approval. Advanced theories and techniques of stage direction; problems of dealing with actors, characterization and style; production of selected scenes and/or one-act play before an invited audience.
- 331. ADVANCED THEATRE TECHNOLOGY (4). Pr., TH 231 or departmental approval. Practical application of new materials and techniques in the theatre, including traditional painting styles and nontraditional materials and methods.
- 333. SCENE PAINTING (4). Practical techniques and skills for executing the scenic/visual elements of theatrical designs, including traditional painting styles and non-traditional materials and methods.
- 335. TECHNICAL DIRECTION/PRODUCTION MANAGMENT (3), Pr., TH 231 and 232 or departmental approval. Coordination and execution of the technical elements of production from the design period through production opening.
- 340. RENDERING FOR THEATRICAL DESIGN (4). Pr., TH 240 or departmental approval. Exploration of traditional drawing and rendering techniques to facilitate designer communication in scenic, lighting and costume design. Exercises in handling a variety of artistic media.
- 341. SCENE DESIGN I (4). Pr., TH 240 or departmental approval. Theory and practice of designing and executing scenery for the stage. Emphasis on traditional styles and methods. Fundamentals of presenting the design idea in perspective rendering and model form.
- 342. PROPERTY DESIGN (3), Pr., TH 240 or departmental approval. History, theory and practice of designing and executing properties for the stage.
- 345. DRAFTING FOR THE THEATRE (4). Pr., TH 231 or departmental approval. Comprehensive study of the techniques and methods used in the graphic representation of stage scenery and properties.
- LIGHTING DESIGN (4). Pr., TH 240 or departmental approval. Principles and practice of stage lighting both as a design and technical medium. Practical production experience in lighting.
- SOUND DESIGN (4). Pr., TH 231 or departmental approval. Principles and practice of stage sound, both as a design and as a technical medium.
- COSTUME CONSTRUCTION II (4). Pr., TH 261 or departmental approval. Pattern drafting and draping and their relationship to a costumer's craft.
- 364. COSTUME DESIGN I (4). Pr., TH 240 or departmental approval. Principles and practice of costume design with emphasis on designing and rendering costumes from various historical periods.
- HISTORY OF THEATRE I (3). Social, religious, political and artistic forces that have contributed to the development of theatre from its origins through 1660.
- HISTORY OF THEATRE II (3). Social, religious, political and artistic forces that have contributed to the development of theatre and drama in Western civilization beginning with 1660 and continuing through 1875.
- 373. HISTORY OF THEATRE III (3). Social, religious, political and artistic forces that have contributed to the development of theatre beginning with 1875 and continuing to the present.
- 374. COSTUME HISTORY (3). The history of costume from ancient Egypt through the present.
- 400. PROFESSIONAL INTERNSHIP (1-12). Pr., junior or senior status or departmental approval. Internship with professional or community theatres in the student's general field of specialization. Hours determined in discussion with internship coordinator.
- THEATRE OPERATIONS/MANAGEMENT (3). Theory and practice of theatre management and arts administration.
- 409. THEATRE OPERATIONS/MANAGEMENT: SPECIAL PROJECTS (2-4). Pr., departmental approval. Selected projects in theatre management and arts administration.
- 411. STUDIO: VOICE IV (2). Pr., TH 313. Singing for the actor.
- 412. STUDIO: VOICE V (2). Pr., TH 411. Dialects for the actor.

- 413. STUDIO: VOICE VI (2). Pr., TH 412. Theatre speech in various styles of period plays and literature.
- 414. ACTING: PERIOD SCENE STUDY (3), Pr., TH 314, Theory and performance techniques of pre-20th century plays.
- 415. STUDIO: ACTING IV (3). Pr., TH 317. Restoration of 18th century scene study.
- 416. STUDIO: ACTING V (3). Pr., TH 415. Continued scene study from selected styles of literature
- STUDIO: ACTING VI (3). Pr., TH 416. Preparation of resumés and monologue material for professional auditions.
- 419. ACTING: SPECIAL PROJECTS (2-4). Pr., departmental approval. May be repeated to a maximum of eight hours Selected advanced projects or recitals for public theatre production.
- 421. DIRECTING: PERIODS (4). Pr., TH 322 or departmental approval. Advanced theories and techniques of stage direction relating to problems of verse and period dramatic literature; production of selected scenes before an invited audience.
- 429. DIRECTING: SPECIAL PROJECTS (2-4). Pr., departmental approval. May be repeated to a maximum of eight hours Direction of a long one-act or full length play for public performance.
- 439. THEATRE TECHNOLOGY: SPECIAL PROJECTS (2-4). Pr., departmental approval. May be repeated to a maximum of eight hours. Selected projects in theatre technology and/or technical direction executed before a public audience.
- 441. HISTORY OF DESIGN IN THE THEATRE (4). A survey of design elements, including architecture, as practiced in the significant movements in theatre history from the time of the ancient Greeks to the present.
- 442. SCENE DESIGN II (4). LEC. 3, LAB. 3. Pr., TH 341 or departmental approval. Advanced theory and practice in the use of scenery and light for the theatrical event. Emphasis on experimental and nontraditional design for a variety of theatre spaces.
- 449. SCENE DESIGN: SPECIAL PROJECTS (2-4). Pr., departmental approval, May be repeated to a maximum of eight hours. Selected projects in scenic design executed before a public audience.
- 459. LIGHTING DESIGN: SPECIAL PROJECTS (2-4). Pr., departmental approval. May be repeated to a maximum of eight hours. Selected projects in lighting design executed before a public audience.
- COSTUME CONSTRUCTION III (4). Pr., TH 261 or departmental approval. A practical study of millinery, dyeing and painting of fabric, jewelry and crafts as these relate to the costumer's craft.
- 465. ADVANCED MAKEUP (4). Pr., TH 265 or departmental approval. An indepth, practical study of makeup design for the stage, including prosthetics, ventilation of hair, masks.
- 469. COSTUME DESIGN: SPECIAL PROJECTS (2-4). Pr., departmental approval. May be repeated to a maximum of eight hours. Selected projects in costume and/or makeup design executed before a public audience.
- AMERICAN THEATRE HISTORY I (3). Survey of American theatre and drama from the beginnings to World War I.
- AMERICAN THEATRE HISTORY II (3). Survey of American theatre and drama from World War I to the present.
- 475. DRAMATIC THEORY AND CRITICISM (4). Survey and analysis of selected writings on the structure and aesthetic values of both the drama and the theatre.
- THEATRE PRODUCTION II (4-8). Pr., TH 281 and departmental consent. Summer. Advanced problem-solving in theatre production with emphasis on individual assignment to positions in the repertory theatre.
- 482. SUMMER REPERTORY THEATRE COMPANY II (6-12). Pr., TH 282 and departmental consent. Summer. An intensive experience in all aspects of theatre production. The advanced student may focus on the development of professional artistic skills.
- 489. DANCE: SPECIAL PROJECTS (2). Pr., TH 284, 285 or departmental approval. Practical and theoretical study of dance techniques supplemented by a study of general dance history and contemporary personalities, events and companies. May be repeated for a maximum of eight credit hours.
- 490. HONORS READINGS AND SPECIAL TOPICS (3-6). Pr., admission to University Honors Program; junior or senior standing. May be repeated for a maximum of six hours. Open only to students in the Honors Program with the consent of the Honors Program Advisor.
- 491. INDEPENDENT STUDY (1-4). Pr., departmental approval and the department head's approval. May be repeated to a maximum of 16 hours. Directed reading, creative and tutorial projects of interest to the advanced student.
- 498. THEATRE SEMINAR: (various titles to be assigned) (1-8). Pr., departmental approval. May be repeated to a maximum of 16 hours. Intensive study of special theatre topics falling outside the regular theatre offerings. Individual topics announced prior to offering of the course.
- 499. SENIOR PROJECT (2-4). Pr., departmental approval. Research and production of senior project. Required of all B.F.A. candidates.

# University Courses (U)

The following courses, interdisciplinary and experimental in character, enable students to see in a wide perspective the relationships between courses in the curriculum and to understand more fully the dominant ideas and concepts confronting students in the modern world. University Courses are open to students in all curricula.

- 100. THE AUBURN EXPERIENCE (2). LEC. 2, LAB. 1. Open to freshmen only. Introduction to the university and its resources, assistance in academic performance and transition to college life.
- SOCIAL SCIENCE: SOCIETY, CULTURE AND THE ENVIRMONMENT (3). An interdisciplinary
  course introducing concepts and processes relating to society, culture and the environment as studied by anthropology, geography and sociology.
- 102. SOCIAL SCIENCE: POLITICAL ECONOMY (3). The institutional setting of U.S. economy and U.S. political system and interaction between the two.
- 103. SOCIAL SCIENCE: THE INDIVIDUAL AND SOCIETY (3). An introduction to human action through the study of individual and social psychology.
- 105. INTRODUCTION TO THE ARTS (3). An introduction to the processes involved in creating, understanding and appreciating the arts, including architecture, visual and plastic arts, dance, music and theatre. Administered by Department of Theatre.
- 135. COMPUTER LITERACY (2). Comprehensive overview of computers, computer science terminology and computer applications and utilization in work and home settings. This course cannot be applied toward graduation from the College of Business.
- 171. HONORS SOCIETY, CULTURE AND THE ENVIRONMENT (3). Introduces concepts and processes relating to society, culture and environment as studied by anthropology, geography and sociology.
- 172. HONORS POLITICAL ECONOMY (3). Pr., membership to University Honors Program. The institutional setting of U.S. economy and political system and the interaction between the two. Seminar format.
- 173. HONORS THE INDIVIDUAL AND SOCIETY (3). Open to students in the Honors Program.
- 190. THEORY AND PRACTICUM IN COLLEGIATE SPORTS (1). Conditioning activities in preparation for competitive football. Skills and fundamental techniques of physical activities related to football. Coaching techniques applicable to all areas of athletic competition. S-U graded.
- 199. PRE-HEALTH PROFESSIONS ORIENTATION (1). Orientation and guidance for all freshmen who are planning to seek admittance to health professions schools such as medicine, dentistry, optometry, physical therapy, pharmacy, occupational therapy, veterinary medicine and podiatry.
- 201. FORUM (1). May be taken more than one quarter for a maximum of 3 credits. S-U only. Credit is given in recognition of significant attendance at public academic lectures, concerts and other events. Requires attendance at seven of the 15-20 FORUM-designated events, which are chosen from various University lecture and concert series and departmental programs. Administered by Department of Political Science.
- 270-271-272. THE HUMAN ODYSSEY: SCIENCES AND HUMANITIES (3). LEC. 2, LAB. 1. Explores the historic interaction between science and culture. Students assemble weekly to view a film or hear a lecture. Subsequent small classes are devoted to discussion of the film or lecture and auxiliary readings. Limited enrollment. Preference is given to upper division students.
- 275. INTERPERSONAL RELATIONS (3). A multi-disciplinary study of methods used by human beings in their interactions that tend to be mutually rewarding. Emphasis is on practical applications within the context of the student's present fields of study and projected fields of work.
- HONORS LYCEUM (1). Pr., membership in University Honors Program. May be repeated for a maximum of 6 credits. S-U only. Weekly academic lectures followed by discussion and interaction.
- 280-281-282. HONORS HUMAN ODYSSEY (3). LEC. 2, LAB. 1. Explores the historic interaction between science and culture. Students assemble weekly to view a film or hear a lecture. Subsequent small classes are devoted to discussion of the film or lecture and auxiliary readings. Limited enrollment.
- 305. THE MODEL UNITED NATIONS (1). May be taken more than one quarter for a maximum of 3 credits. S-U only. Preparation of materials for, and active participation in, the sessions of the Model United Nations program held annually on the campus. Administered by Department of Political Science.
- 390. AUBURN ABROAD (0). Open to sophomores. Enrollment in study abroad/exchange office approved programs world-wide. Must meet individual program requirements and obtain a prior estimate of overseas credit from Auburn University departments and colleges.
- 399. EXPERIENTIAL LEARNING (2-6). Pr., sophomore standing and departmental approval. May be repeated once for credit. A maximum of 6 credits allowed. Students may obtain academic credit for participation in learning experiences of a practical nature available outside the normal curricular offerings of the University. Normally S-U Graded.
- 400. FRANKLIN SEMINAR IN AMERICAN CULTURE (3-5). Specific topics and lectures presented by distinguished teachers and scholars.

590. AUBURN ABROAD (0). Enrollment in study abroad/exchange office approved programs world-wide. Must meet individual program requirements and obtain a prior estimate of overseas credit from Auburn University departments and colleges.

# Veterinary Medicine (VM)

### ANATOMY AND HISTOLOGY

Professors Krista, Head, Gray, Buxton and Rumph Associate Professors Cartee, Garrett, Kincaid, Marshall and Morrison.

#### LARGE ANIMAL SURGERY AND MEDICINE

Professors D. Wolfe, Head, Kirk, Purohit, Vaughan and Powe Associate Professors R. Carson, Humburg, Riddell and Schumacher Assistant Professors N. Baird, DeGraves, Duran, Hanson, Lin, Pugh, Wallace, Williams and Wenzel

Adjunct Assistant Professor Floyd

#### PATHOBIOLOGY

Professors L. Wolfe, *Head*, Baker, Blagburn, Panangala, Powers, P. Smith, Spano, D. Stringfellow and Swango

Adjunct or Affiliate Professors Alley, Giambrone, Klesius, Lauerman, Lindsey and Plumb Associate Professors Bird, Boosinger, Boudreaux, Brunner, Cox, Ewald, Hendrix, Hoerr, Kwapien, Newton, Nusbaum, Van Santen, Weiss and Wright Affiliate Associate Professor Dillehay

Assistant Professors Lenz, Kaltenböck, Price, Rolsma, Sartin, B. Smith and Welles Adjunct or Affiliate Assistant Professors D'Andrea, Nuehring,

Rowe-Rossmanith and Smith-Carr Instructors T. Hathcock and J. Stringfellow

#### PHYSIOLOGY AND PHARMACOLOGY

Professors Wilson, Head, Branch, R. Kemppainen, Moriarty, Sartin and Vodyanoy Adjunct or Affiliate Professors Neil, Blalock, Cole, Dorner, Cummins and Ravis Associate Professors Braden, B. Kemppainen, Myers, Paxton and Vaughn Assistant Professors Clark and Schwartz

#### RADIOLOGY

Professor Bartels, Head Affilate Professor Marich

Associate Professors Cartee, Brawner and Hathcock Assistant Professors Finn-Bodner and Hudson Affiliate Assistant Professor Rothchild

#### SMALL ANIMAL SURGERY AND MEDICINE

Professors Knecht, Head, Angarano, Baker, Braund, Dillon, Hankes, Henderson, Lothrop, Sorjonen, Swaim and D. Whitley

Affiliate Professors Flandry and Hughston

Associate Professors G. Beard, MacDonald, McLaughlin, Simpson and Steiss Assistant Professors Brewer, Golden, Mansfield, Macintire and Montgomery Affiliate Assistant Professors Hunt, Savory and Terry

#### VETERINARY MEDICINE (VM)

Following this section of Veterinary Medicine course descriptions, the remaining VM courses are listed under their alphabetically arranged departments.

- 300. ORIENTATION (2). Fall. Dynamics of professional responsibilities, duties and privileges of the veterinarian.
- 313. PHYSIOLOGY I (5). LEC. 5. Fall. Cell and cardiovascular physiology.
- 314. PHYSIOLOGY II (5). LEC. 5. Winter, Rend and respiratory physiology.
- 315. PHYSIOLOGY III (5). LEC. 5. LAB. 2. Neuroscience and gastrointestinal physiology.
- 316. PHYSIOLOGY IV (5). LEC. 5. Winter. Endocrinology and reproduction.
- 319. PHARMACOLOGY I (5). LEC. 4, LAB. 2. Fall. Introductory pharmacology and CNS drugs.
- 320-321-322. ANATOMY I, II, III (5-5-5). LAB. 10. Fall, Winter. Spring. Gross anatomy of domestic animals. The gross structures of the dog. cat, ox, horse, hog and fowl.

- 326. MICROSCOPIC ANATOMY I (3). LEC. 1, LAB. 4. Fall. Microscopic anatomy of the form, structure and characteristics of the basic tissues of animals.
- MICROSCOPIC ANATOMY II (4). LEC. 1, LAB. 6. Pr., VM 326. Winter. Microscopic anatomy of the gastrointestinal, blood, cardiovascular, hemopoietic, integumentary, respiratory and lymphoid systems.
- 328. MICROSCOPIC ANATOMY III (4). LEC. 2, LAB. 4. Pr., VM 327. Spring. Microscopic anatomy of the urogenital, endocrine, auditory and visual systems as well as placentation.
- 331. VETERINARY MICROBIOLOGY I (4), LEC. 4. Fall. Veterinary immunology and principles of epiderniology.
- 401. PHARMACOLOGY II (3). LEC. 2, LAB. 2. Winter. Cardiovascular, renal and gastrointestinal drugs.
- 402. PHARMACOLOGY III (2). LEC. 2. Spring. Pharmacology of antibacterial drugs.
- 403. VETERINARY TOXICOLOGY I (3). LEC. 3. Fall: Toxicology-chemicals, venoms.
- PATHOLOGY I (5). LEC. 4, LAB. 2. Pr., VM 322, 328. Fall. General concepts of pathology, introduction to disease processes affecting animals, laboratory work on gross and microscopic pathological changes.
- 406. PATHOLOGY II (5). LEC. 4, LAB. 2. Pr., VM 405. Winter. Continuation of VM 405.
- PATHOLOGY III (5). LEC. 3, LAB. 4. Pr., VM 406. Spring. Continuation of VM 406. Includes a caseoriented integrative pathobiology laboratory.
- LABORATORY ANIMAL MEDICINE (3). LEC. 3. Pr., VM 405, 406. Fall. Management, utilization and disease of the common laboratory mammals including rats, mice, guinea pigs, hamsters, rabbits and nonhuman primates.
- 409. VETERINARY PARASITOLOGY I (4), LEC. 3, LAB. 2. Fall. Introduction to parasitology including internal and external parasites of domestic animals.
- 410. VETERINARY PARASITOLOGY II (4). LEC. 3, LAB. 2. Pr., VM 409. Winter. Continuation of VM 409.
- VETERINARY MICROBIOLOGY II (5). LEC. 4, LAB. 2. Pr., VM 331. Winter. Bacteriology and mycology.
- 412. VETERINARY MICROBIOLOGY III (5), LEC. 4, LAB. 2, Pr., VM 331, 411. Spring. Veterinary virology.
- 413. MICROBIOLOGY IV (4). LEC. 4. Fall. Applied immunology, preventive medicine and zoonoses.
- 414. L.A. MEDICINE I (5). LEC, 5. Fall. Detailed etiology, symptoms, pathogenesis, diagnosis, treatment and prevention of the medical diseases affecting the various systems and organs of the equine, bovine, ovine and procine species.
- 420. L.A. MEDICINE II (5). LEC. 5. Winter. Continuation of VM 414. Includes nutritional deficiency dispases.
- 421. INTRODUCTION TO VETERINARY SURGERY (3). LEC. 3. Spring. Background of surgery; major surgical injuries—wounds. fluid loss and infection; preoperative and postoperative care; surgical techniques; anesthesia.
- 422. L.A. SURGERY (3). LEC. 3. Winter. Special surgical diseases of the domestic farm animals including surgery of the alimentary canal, the chest and abdomen, the respiratory and cardiovascular systems, the eye and ear, the genito-urinary tract and the feet and limbs.
- 423. CLINICAL PATHOLOGY (5). LEC. 5. Pr., VM 407. Spring. Methods for the collection, preservation and examination of various body fluids including blood and urine. Interpretation of results is directed toward clinical diagnosis and prognosis.
- 424. S.A. MEDICINE & SURGERY II (3). Fall. The diagnostics, medical and surgical treatment of small animals.
- 425. S.A. MEDICINE & SURGERY III (5). Pr., VM 424. Winter. Continuation of VM 424.
- CLINICAL PATHOLOGY LABORATORY (1). LAB. 2. Pr., VM 423. Winter. Practical diagnostic laboratory experience in clinical pathology, microbiology and immunology.
- S.A. MEDICINE & SURGERY I (4). LEC. 4. Spring. The systemic diseases and clinical immunologic procedures in small domestic animals.
- L.A. PHYSICAL DIAGNOSIS (2). LEC. 1, LAB. 2. Fall. Demonstration and application of principles and techniques of physical diagnosis of large animals.
- S.A. PHYSICAL DIAGNOSIS (1). LAB. 2. Spring, Demonstration and practice of handling, restraint, physical diagnosis and administration of therapeutic agents related to small animals.
- VETERINARY JURISPRUDENCE AND ETHICS (2), Winter. Laws relating to the veterinary profession. Professional ethics for the veterinarian.
- 431. VETERINARY RADIOLOGY (4). LEC. 4. Fall. Basic diagnostic radiology including organ system interpretations, techniques, ultrasound therapy and equipment.
- MICROBIOLOGY V (3), LEC. 3. Pr., VM 411. Winter. Principles of public health and methodology of food hygiene.
- 433. AVIAN DISEASES (4), LEC. 4. Winter. Diagnosis, prevention and treatment of poultry diseases and the most common diseases of caged, zoo and wild birds.

#### Veterinary Medicine

- 435. THERIOGENOLOGY (5). LEC. 5. Spring. Clinical application of the physiology of reproduction, causes and correction of dystocia, genital examinations and infertility of the male and female.
- 436. SPECIAL ANATOMY (1-5). (HOURS AND CREDIT TO BE ARRANGED.) Pr., VM 320. Elective course in which any phase of anatomy of domestic animals to the anticipated field on specifization may be studied.
- VETERINARY TOXICOLOGY II (3). Summer, Identification and study of selected poisonous plants of the U.S. To include characteristic signs, lesions, methods of diagnosis and treatment.
- 438-439. L.A. MEDICINE III, IV (2-5). Summer, Fall. Principal infectious diseases of large domestic animals. Epizootiology, etiology, clinical signs, diagnosis and diseases control including immunization and sanitation.
- 440-441-442-443. S.A. CLINICS I, III, III, IV (7-7-7-7). Conferences, laboratory exercises and practice in diagnosis, control and therapy of diseases of small animals.
- 444-445-446-447. L.A. CLINICS AND LARGE ANIMAL SURGERY AND THERIOGENOLOGICAL EXERCISES I, II, III, IV, (7-7-7-5). LAB. (12-18-17-18). Conferences, lab exercises and practice in diagnosis, control and therapy of diseases and surgical procedures for large domestic animals.
- S.A. SURGERY PRACTICUM I (2). LAB. 4. Fall. Introductory and detailed consideration and performance of small animal surgery.
- 449. S.A. SURGERY PRACTICUM II (2). LAB. 4. Pr., VM 428, 448. Winter. Detailed consideration and performance of small animal surgery continued.
- PRACTICE MANAGEMENT (2). LEC. 2. Winter. Fundamental principles of effective client, personnel, practice and business management for the veterinarian. S-U graded.
- 454. PRECEPTORSHIP (0). NON-CREDIT REQUIRED COURSE. Spring. Completion of satisfactory preceptorship during the spring quarter is required for graduation.
- 455. ETHOLOGY (1). LEC. 1. Winter. Animal behavior.
- 456. APPLIED ANATOMY (1). LAB. 2, Pr., VM 322. Provides an in depth anatomical basis of practical application of local and regional anesthesia in the horse. Diagnostic and therapeutic anesthesia are included.
- APPLIED SURGICAL ANATOMY I (1). LAB. 2. Pr., VM 320. Provides a detailed anatomical study of typical small animal orthopedic surgical approaches.
- 458. APPLIED SURGICAL ANATOMY II (1). LAB. 2. Pr., VM 320. Provides a detailed anatomical basis for surgical treatment of soft tissue in small animals. Thoracic, abdominal, pelvic and head topography.
- 459. EQUINE FOOT ANATOMY (2). LAB. 4. Pr., VM 322. Provides a detailed microscopic and gross study of the equine foot. Students will be provided the opportunity to study the gross microscopic and radiographic structure. Related to the living, normal and diseased animal
- 460. EQUINE LIMB ANATOMY (2). LAB. 4. Pr., VM 322. Provides a detailed study of the equine fore and hind limb, emphasizing joints, synovial sacs, figaments tendons, bones, nerve and blood supply. Relates structure to functional aspects, including both normal and abnormal.
- ULTRASONOGRAPHY (1), LAB. 2. Pr., VM 320. Principles and practice of veterinary diagnostic ultrasonography in evaluating normal and abnormal anatomy of domestic animals. All modes of ultrasonography are utilized.
- 462. INTRODUCTORY NEUROANATOMY (2). LAB. 2. Pr., VM 320. Overview of the functional morphology of the central nervous system. Initial emphasis on the input-output segments of brain stem and spinal cord. Subsequently, long-tract relations of sensory and motor systems will be integrated with these input-output segments.
- ADVANCED VETERINARY APPLICATIONS (4). Pr., VM 443, 447. Winter. Optional basic and clinical rotations.
- 464. ADVANCED CLINICAL OPHTHALMOLOGY (1). LEC. 1. Pr., VM 443 and 447. Winter. Diagnosis and therapy of ophthalmic diseases in animal species. S-U graded.
- 465. SMALL ANIMAL WOUND MANAGEMENT AND RECONSTRUCTIVE SURGERY (1). LEC. 1. Pr., VM 443 and 447. Winter, Management of various wounds and the reconstructive/salvage surgical techniques for these wounds. S-U graded.
- ADVANCED SMALL ANIMAL ONCOLOGY (2). LEC. 2. Pr., VM 443 and 447. Winter. Current diagnostic and therapeutic methods used in small animal oncology. S-U graded.
- 467. VETERINARY EMERGENCY MEDICINE AND CRITICAL CARE (1). LEG. 1. Pr., VM 443 and 447. Winter. Problem-oriented approach to the diagnosis, therapeutic management and monetary considerations in the acute and or critical veterinary patient. S-U graded.
- LARGE ANIMAL OPERATIVE SURGERY, BASIC (1). LEC. 1. Pr., VM 443 and 447. Winter. Operative surgery in the large animal.
- LARGE ANIMAL OPERATIVE SURGERY, HOSPITAL (1). LEC. 1. Pr., VM 443 and 447. Winter, Large animal surgery that requires hospitalization.

- EQUINE LAMENESS (1). LEC. 1. Pr., VM 443 and 447. Winter, Diagnosis and management of equine lameness.
- 478. PROBLEM-BASED DIAGNOSTICS IN FOOD ANIMALS (2). LEC. 2. Pr., VM 443 and 447. Winter. Review of problem-oriented diagnosis in food animals.
- 479. VETERINARY ANESTHESIA AND INTENSIVE CARE (1). LEC. 1. Pr., VM 443 and 447. Winter. Topics in veterinary anesthesia and intensive care.
- 480. APPLIED SMALL ANIMAL NEUROLOGY (1). Pr., senior standing in veterinary medicine, VM 440-442. Winter. Clinical management of commonly occurring neurologic diseases of small domestic animals.
- LARGE ANIMAL RADIOLOGY (1). LEC. 1, Pr., VM 443 and 447. Winter. Radiology techniques and diagnosis in large animal disease with emphasis on equine lameness.
- 486. VETERINARY CLINICAL ENDOCRINOLOGY (1). LEC. 1. Pr., VM 316 or equivalent and departmental approval. Winter, even years. Current methods used in the diagnosis and treament of endocrine disease of importance in veterinary species. Emphasis on current recommendations for diagnosis and therapy as well as the pathophysiology of each disorder. S-U graded.

# ANATOMY AND HISTOLOGY (VAH)

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 520-521-522. ANATOMY I, II, III (5-5-5). LEC. 2, LAB. 10. Pr., departmental approval. Fall, Winter, Spring. Gross anatomy of domestic animals. A comparative study of the gross structures of the dog, cat, horse, hog, towl, laboratory animals and zoo animals.
- MICROSCOPIC ANATOMY I (5). LEC. 2, LAB. 6. Pr., departmental approval. Fall. Microscopic anatomy of the form, structure and characteristics of the basic tissues of animals.
- MICROSCOPIC ANATOMY II (5), LEC. 2, LAB. 6. Pr., departmental approval. Winter. Microscopic anatomy of the tissue composition of organs and organ systems.
- 528. MICROSCOPIC ANATOMY III (4). LEC. 2, LAB. 4, Pr., departmental approval. Spring. Microscopic anatomy of the reproductive organs. Formation and early development of the embryos of domestic animals. Fetal membranes and placentation are emphasized.
- HISTOLOGICAL TECHNIQUES (2-5). departmental approval. Quarter by arrangement. Detailed techniques employed in the preparation of cytological and histological materials.

# PHYSIOLOGY AND PHARMACOLOGY (VPH)

- 501. PHARMACOLOGY II (3), LEC. 2, LAB. 2. Winter. Cardiovascular, renal and digestive drugs.
- 502. PHARMACOLOGY III (2). LEC. 2, Spring. Pharmacology of antibacterial drugs.
- EXOTIC ANIMAL PHARMACOLOGY (2). LEC. 2. Pr., VM 443 and 447. Winter. Drug use in pet birds, reptiles and zoo animals.
- 513. PHYSIOLOGY I (5), LEC. 5. Fall. Cell physiology and neuroscience.
- 514. PHYSIOLOGY II (5), LEC, 5. Winter, Respiratory and cardiovascular physiology.
- 515. PHYSIOLOGY III (5), LEC. 4, LAB. 2, Spring. Physiology of kidney, liver and digestive systems.
- 516. PHYSIOLOGY IV (5). LEC. 5. Winter. Endocrinology, reproduction and integrative physiology.
- 519. PHARMACOLOGY I (5), LEC. 4, LAB. 2. Fall. Drugs acting on the central nervous system.
- 595. SPECIAL PROBLEMS (1-5). LAB. 1-5. Pr., acceptable courses in biochemistry and physiology, departmental approval. Individualized research in modern biochemistry, physiology, pharmacology or toxicology from a cellular to a whole animal basis. Students participate in designing, conducting and reporting results of original research.

#### PATHOBIOLOGY (VPB)

- 418. INTRODUCTION TO THE GREAT PLAGUES (1). LEC. 1. Winter. An attempt to understand why plagues are propagated and what effect plagues have and have had on our society and on our culture.
- RESEARCH PROBLEMS IN MOLECULAR BIOLOGY (2-5). Any quarter by arrangement. Research problem in molecular biology under supervision of departmental faculty.
- 502. ADVANCED TECHNIQUES IN POPULATION MEDICINE AND DISEASE OUTBREAK INVESTIGA-TION (2). LEC. 2. Pr., VM 443 and 447. Winter. Advanced methods for evaluating health and disease in populations with techniques for disease outbreak investigation.
- 503. WILDLIFE DISEASES (3), LEC. 3. Pr., VM 443 and 447. Fall. Basic information related to infectious and parasitic diseases of wildlife and their zoonotic and epidemiologic importance to wildlife management.
- 510. ADVANCED REPRODUCTIVE TECHNIQUES (3). LEC. 3. Pr., ADS 361 or VM 316 or equivalents. Winter. Techniques associated with embryo transfer, in vitro fertilization and intrafallopian gamete transfer. Emphasis on applied and experimental use of techniques in cattle.

## Vocational and Adult Education (VED)

Professors Drake, Head, Baker, J. Smith and Wilmoth Associate Professors Curtis, Haves, Selman, G. Smith, Waddy, White and Wilson Assistant Professors Cook, Ellis, Halverson, Kraska, Larkin, Morris, Mitchell, Patterson,

Robinson and Yoakum

* The shorthand and keyboarding/typewriting sequence should be begun at the highest possible level because credit may be gained through advanced placement. With previous training in either, the student may enter the second or third quarter course. If a grade of C or higher is earned, credit is given for the lower courses. If a C is not earned, advanced placement credit will not be granted. Consult with VBU staff for placement.

Program Designators — When appropriate, certain sections of the following common offenness are identified by programs within the departments by the use of letter designations as noted: (A) Agriculture, (B) Industrial Arts, (C) Industrial, (D) Marketing, (F) Adult, (G) Technical, (H) Business. (I) Home Economics and (T) Health Occupations.

- 102. ORIENTATION FOR TRANSFER STUDENTS (1). Helps transfers from other curricula and students. pursuing the dual objectives program to understand teacher education and teaching as a profession.
- 104. ORIENTATION TO LABORATORY EXPERIENCES IN AREA OF SPECIALIZATION (1).
- 200. KEYBOARDING I* (3). LAB. 5. Mastery of keyboard with basic keyboarding applications. For students with no previous training in keyboarding/typewriting. (Students with previous typewriting instruction not eligible for credit. Consult with VBU staff for placement.)
- 201. KEYBOARDING II* (3). LAB. 5. Pr., VED 200 or one year of high school keyboarding/typewriting. Emphasis on business documents, such as letters, memorandums, reports and tables.
- 210. SHORTHAND I* (5). Pr., VED 200 or equivalent. Basic course in Grego shorthand. Emphasis on recognition of principles; rapid reading of notes; dictation of new material.
- 211. SHORTHAND II* (5). Pr., VED 210. Reinforcement of principles; speed building dictation; development of transcription skills.
- 216. PLASTICS TECHNOLOGY (2). LEC. 1, LAB. 2. Laboratory oriented course in material and processes of plastic products.
- 246. INSTRUCTIONAL DRAWING (3). LAB. 6. Preparing for the shop laboratory, including making freehand and pictorial sketches and drawings, reading working drawings, blue prints, manufacturers guides and lettering, use of instruments, dimensioning, making models, floor plans, bills for materials, writing specifications and developing working plans.
- 301. PRACTICUM IN WOODWORKING (3), LEC. 1, LAB. 4. Introduction to machines, tools used in working with wood and studies in design, construction, and finishing objects of wood.
- 302. ADVANCED KEYBOARDING* (5). Pr., VED 201or departmental approval. Development of production competencies in office situations. Use of various office equipment.
- 305. RECORDS MANAGEMENT (3). Basic procedures of filing, records storage and control. Practice in record keeping.
- 312. SHORTHAND/TRANSCRIPTION* (5). Pr., VED 211. Emphasis on theory development, communication skills, transcription techniques and proofreading. Transcription of office-style dictation and production of business correspondence in mailable form. Individualized development of dictation speed. transcription speed and correspondence production rates.
- 346. VOCATIONAL AND ADULT EDUCATION. (3). LEC. 2, LAB. 2. Principles of vocational education and their application in developing and operating preparatory and in-service programs.
- 352. MEDICAL TERMINOLOGY FOR HEALTH RELATED OCCUPATIONS (5). Equips student with essential medical terminology for effective communications among the members of the health team.
- 354. CAREERS IN HEALTH RELATED OCCUPATIONS (5). Identification of role and function in health related occupations including the range of occupations that require minimum training as well as those that require university-level education.
- 356. HEALTH DELIVERY SYSTEMS (5). Contemporary and emerging patterns in delivering health ser-
- 400. INTRODUCTION TO POWER MECHANICS (3), LEC. 1, LAB. 4. Design and operational theories related to power machines. Internal combustion engines; power trains; hydraulic and cooling systems.
- 401. PRACTICUM IN SMALL GASOLINE ENGINES (3). LEC. 1, LAB. 4. Application of skills and abilities needed in teaching the maintenance and repair of small air cooled engines. Theories of compression, carburetion and ignition; laboratory exercises in repair and maintenance.
- 402. AUTOMOTIVE CONSTRUCTION AND REPAIR (3), LEC. 1, LAB. 4. Theories of design, principles of operation and maintenance and repair of ignition system, fuel systems, power systems and chassis components.

- 404. PRACTICUM IN GENERAL METALS (3). LEC. 1, LAB. 4. Application of skills and abilities needed in the teaching of metal processes applicable to vocational education program in the secondary school. Metal properties; power tools; heat treating; ornamental iron work, cold metal; sheet metal; machining metals; and arc and gas welding.
- 405. THE SCHOOL SHOP (3). Organization and management of the school shop; methods and materials integrated with the study of jobs and problems basic to the teaching of skills in vocational education.
- 406. PRACTICUM IN BUILDING CONSTRUCTION AND MAINTENANCE (3). LEC. 1, LAB. 4. Application of skills and abilities needed in teaching the erections of buildings and other related structures.
- 407. PRACTICUM IN ELECTRICITY (3). LEC. 1, LAB. 4. Application of skills and abilities needed in the teaching of fundamental principles of electricity. Planning and developing projects involving an understanding of electrical principles as applied to materials selection, circuits, motors and devices; and maintenance and servicing of electrical equipment and appliances.
- 408. PRACTICUM IN GENERAL SHOP (3). LEC. 1, LAB. 6. Application of skills and abilities needed in teaching general shop skills to students and clients in school laboratories and rehabilitation centers.
- 409. TEACHING ELECTRONICS IN AREA OF SPECIALIZATION (3). LEC. 1, LAB. 4. Pr., consent of department head. Theories and practices used in school electronic laboratories; projects designed and constructed.
- 410. PROGRAMS IN HOME ECONOMICS FOR THE MIDDLE SCHOOL (4). LEC. 3, LAB. 2. Pr., admission to teacher education and FED 350 or equivalent. Principles of and experiences in designing middle school home economics programs; evaluation of instruction and programs.
- 414. PROGRAM IN AREA OF SPECIALIZATION (3). LEC. 2, LAB. 2. Pr., admission to Teacher Education. Program planning principles involved in designing program activities for specific areas of specialization.
- 415. TEACHING IN AREA OF SPECIALIZATION (3-5). LEC. 2-5, LAB. 2-4. Pr., admission to Teacher Education. Understanding of curriculum content: methods and techniques of instruction using appropriate instructional materials; planning and evaluation of instruction for specific area of specialization.
- 420. ADVANCED WORD PROCESSING SYSTEMS (5). Pr., VED 302 or equivalent. Introduction to office technology and communication skills with emphasis on word processing concepts and systems.
- OFFICE INTERNSHIP (10). LAB. 20. Pr., VED 440, and senior standing. Supervised work experience.
- 425. PROFESSIONAL INTERNSHIP (15). Pr., senior standing, admission to Teacher Education. Provides supervised, on-the-job experiences in a school, college or other appropriate setting. Evaluation and analysis of the intern experience.
- 430. MICROCOMPUTER PROCESSING SYSTEMS (5). Pr., VED 420 or equivalent. Microcomputer processing applications to include spreadsheets, database management, word processing and graphics.
- 440. ELECTRONIC OFFICE PROCEDURES (5), Pr., VED 430 or equivalent. Overview of the electronic office, with processing procedures, administrative support and management functions, career development and simulations.
- 442. PRACTICUM IN METALWORKING PROCESSES (3). LEC. 1, LAB. 4. The properties of metals and application of metalworking processes including machine tool, foundry, sheet-metal, and standard fabrication techniques.
- 444. PRACTICUM IN ENVIRONMENTAL SYSTEMS (3). LEC. 1, LAB. 4. Applications of theory with emphasis on design, installation and maintenance of environmental systems in residential and light commercial structures.
- 446. DIRECTED INDEPENDENT STUDY (1-10). The student's learning efforts are guided toward desired objectives. Includes evaluation by professor and student of work accomplished at regular intervals.
- 450. SPECIAL TOPICS (1-5). Seniors and professors pursue selected concepts and theoretical formulations.
- 457. PRACTICUM IN GRAPHIC ARTS INSTRUCTION (3). AB. 6. Pr., junior standing. To prepare preservice and in-service vocational teachers to teach graphic arts skills in printing and duplicating techniques, advertising, display and other modes of graphic communication.
- 462. DIRECTED WORK EXPERIENCE IN AREA OF SPECIALIZATION (5), LAB. 10. Pr., VED 414. Inservice, supervised work experience. Individually designed for part-time and/or summer experience.
- 466. TEACHING OUT-OF-SCHOOL GROUPS (3). Pr., VED 414. Conducting surveys, occupational analysis, using advisory committees, organizing, conducting and supervising various types of adult education.
- 469. COMMUNITY PROGRAMS IN ADULT EDUCATION (5). LEC. 4, LAB. 2, Pr., junior standing, VED 513 or departmental approval.

- 475-476-477-478-479-480. TRADE AND TECHNICAL EXPERIENCE (5-5-5-5-5). An experience completed by supervised employment or by examination on basis of journeyman level work experience at the maximum rate of 15 quarter hours for each year of such experience. In those occupations where there is no organized apprenticeship experience beyond the level of learner will correspond to starting the curriculum, elective coursework may be substituted for these credits.
- PRACTICUM (1-15). Provides experiences relating theory and practice, usually carried on simultaneously.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 508. TEACHING MECHANICAL TECHNOLOGY (5). LEC. 3, LAB. 4. Pr., junior standing. Objectives and methods; equipment and management of vocational education shops; organization of projects; recent development in specialized areas of mechanics; in-service teaching problems. Students plan for demonstration of methods for teaching mechanical skills.
- 510. OCCUPATIONAL INFORMATION (3). LEC. 2, LAB. 2. Pr., junior standing. Occupational structure, job qualifications and requirements, sources of occupational information, current trends, industrial and occupational surveys. Preparation, evaluation and dissemination of occupational information.
- 513. NATURE OF ADULT EDUCATION (5). Pr., junior standing. History and principles of adult education applied to the development and im plementation of programs in remedial, occupational, continuing and life-long learning.
- 520. TEACHING VOCATIONAL EDUCATION TO STUDENT WITH SPECIAL EDUCATION NEEDS (5). Pr., junior standing successful completion of program planning and methods courses. Program development resources for teaching vocational skills to students who are economically and educationally disadvantaged or handicapped.
- 524. ADMINISTRATIVE MANAGEMENT (5). Pr., junior standing, departmental approval. Management of information in many forms, systems design, data collection and processing methods, communications and record management, office physical facilities, other performance standards and control and motivation of personnel.
- 541. DEVELOPMENT OF VOCATIONAL EDUCATION (4). Pr., junior standing. Historical perspective of the development of vocational education with an overview of its nature and purpose relative to the technological society.
- 550. CAREER EDUCATION (4). Pr., junior standing. Introduction of career education as a system concept encompassing the entire educational experience in K-14. Emphasis will be given to the interrelated nature of the role of the administrator, the counselor and the classroom teacher in career education.
- 552. INSTRUCTIONAL PROGRAMS IN THE CONSTRUCTION INDUSTRY (4). LEC. 2, LAB. 4. Pr., VED 414 or 415 or graduate standing. Preparation of teachers to implement exploratory programs of a hands-on nature permitting students to gain insight into careers in the construction industry.
- 554. INSTRUCTIONAL PROGRAMS IN THE MANUFACTURING INDUSTRY (4). LEC. 2, LAB. 4. Pr., VED 414 or 415 or graduate standing. Preparation of teachers to implement exploratory programs of a hands-on nature that permits students to gain insight into careers in the manufacturing industry.
- 556. LEARNING RESOURCES IN AREA OF SPECIALIZATION (5). Pr., junior standing. (A) Agricultural Education; (B) Industrial Arts Education; (C) Trade and Industrial Education; (D) Marketing Education; (F) Adult Education; (G) Technical Education; (H) Business; (I) Home Economics; and (T) Health.
- 558. COORDINATION AND SUPERVISION OF VOCATIONAL EDUCATION PROGRAMS IN AREAS OF SPECIALIZATION (5). LEC. 4, LAB. 2. Pr., junior standing. Appropriate relationship between school and on-the- job programs, including records of coordination, student placement, improving employable skills and habits, recruitment and selection of work experience applicants, work experience rotation, public information and other similar activities.
- 574. ORGANIZATION OF INSTRUCTION IN VOCATIONAL-TECHNICAL EDUCATION (5). Pr., junior standing. Trade and occupational analysis, principles and procedures of identifying and selecting the skills and knowledge needed in the preparation of courses of instruction. Principles and procedures of individualizing instruction.
- 591. PROBLEMS IN TEACHING THE DISADVANTAGED ADULT (3-5). Pr., junior standing. Problems of the disadvantaged adult with emphasis on the unique sociological, psychological and physiological factors that influence learning and participation in remedial learning activities.

# Zoology and Wildlife Science (ZY)

Professors Pritchett, Head, Bradley, Causey, Dobie, Dusi, G. Folkerts, Henry, Holler, Mirarchi and Wit

Alumni Professor Sundermann

Adjunct Professors Crozier and Dorgan

Alumni Associate Professor M.W. Wooten

Associate Professors Best, Dobson, Guyer, Hepp, Kempf, Lisano, Lishak, Speake, Stribling and M.C. Wooten

Adjunct Associate Professors Current, Frandsen, Heck and Williams Assistant Professors Armstrong, Ferninella, D. Folkerts, Hill, Mendonca and Moss Adjunct Assistant Professor Simons

Instructor Hays

BI 101, 102 and 103 are prerequisite for many courses in this department. For a description of these and other general biology courses, see the section for Biology.

- 201. MARINE BIOLOGY (6). LEC. 4, LAB. 4. Pr., BI 101, 102 and 103. Summer. The invertebrates, vertebrates and marine plants as communities with emphasis on local examples. Taught only at Dauphin Island Sea Laboratory. Credit may not be earned in both ZY 201 and 436.
- 205. WILDLIFE CONSERVATION (3). LEC. 3. Fall. The history of wildlife conservation in North America and a presentation of current wildlife conservation problems and practices.
- 241. INTRODUCTION TO MARINE ZOOLOGY (6). LEC. 3, LAB. 9. Pr., Bi 101, 102 and 103. Summer. A general introduction to the marine environment with emphasis on the local fauna. Taught only at the Gulf Coast Research Laboratory. Credit may not be earned in this course and ZY 210 or 307.
- 250. HUMAN ANATOMY (5). LEC. 4, LAB. 3. Pr., BI 101 or BI 105. The structure of the human body combined with a comprehensive study and dissection of a large mammal. Structural similarities and dissimilarities will be emphasized in the laboratory. A common laboratory section will meet one day at the lecture hour and the two-hour dissection laboratories will meet in small groups by sections.
- 251. PHYSIOLOGY (5). LEC. 4, LAB. 3. Pr., BI 103 or ZY 250. Prior credit for ZY 316, 524 or 560 precludes credit for this course. Function of mammalian systems with emphasis on man. Laboratory exercises will provide students with an opportunity to validate functions on laboratory animals.
- 300. GENETICS (5). LEC. 4, LAB. 3. Pr., BI 101 and college algebra or equivalent. Fall, Winter, Spring. Basic genetic principles, theoretical basis for genetic systems and modern areas of research. Laboratory emphasizes biometrical analysis of experiments using plants and animals. A common laboratory-recitation session will meet on the "fifth day" at the lecture hour and a two-hour data collecting lab will meet in small groups by sections.
- COMPARATIVE ANATOMY (5). LEC. 3, LAB. 6. Pr., BI 103. Winter, Summer. Comparisons of the systems of the vertebrates.
- 302. VERTEBRATE EMBRYOLOGY (5). LEC. 3, LAB. 6. Pr., BI 103. Fall, Spring. Fertilization, cleavage, morphogenesis, and organogenesis of the frog, chick, pig and human from a descriptive and analytical viewpoint.
- 303. PRINCIPLES OF EVOLUTION AND SYSTEMATICS (5). LEC. 5. Pr., BI 102 or 103. Fall, Winter, Summer. The major processes, methods and philosophic basis for present day concepts of evolution and systematics.
- 306. PRINCIPLES OF ECOLOGY (5). LEC. 4, LAB. 3. Pr., 10 hrs. biology or departmental approval. Fall, Spring, Summer. The physical and biotic factors of the environment and the interactions of these with plants and animals. The organization and functions of communities and populations.
- 307. INTRODUCTION TO OCEANOGRAPHY (6). LEC. 4, LAB. 4. Pr., college algebra, general chemistry and general physics. Summer. The physics, chemistry, biology and geology of the oceans. Taught only at the Dauphin Island Sea Laboratory. Credit may not be earned in both ZY 307 and 435.
- 310. CELL BIOLOGY (4). LEC. 4. Pr., BI 101 or equivalent and CH 207. Fall, Winter. Morphology and physiology of cell membranes, cytoplasm and the formed elements of the cytoplasm and nucleus. Cell division, molecular transport, cellular homeostasis and biochemical pathways of energy production.
- 310L CELL BIOLOGY LABORATORY (2). LAB. 4. Pr., ZY 310 or concurrently. Fall, Winter, Laboratory exercises in cell biology.
- 316. PHYSIOLOGY OF DOMESTIC ANIMALS (5). LEC. 4, LAB. 3. Pr., BI 103. Fall, Winter. Prior credit for ZY 251, 524 or 560 precludes credit for this course. Function of mammalian systems with emphasis on domestic mammals. Degree credit may not be earned in both ZY 316 and 251 or 524.
- PRINCIPLES OF WILDLIFE MANAGEMENT (4), LEC. 4. Pr., a course in ecology. Fall. Fundamentals of wildlife management theory, application and administration.
- 328L WILDLIFE MANAGEMENT LABORATORY (1). LAB. 3. Pr., ZY 328 or concurrently. Fall. Laboratory experiences in wildlife management.
- 401. INVERTEBRATE ZOOLOGY (5). LEC. 4, LAB. 4. Pr., BI 103. Winter. Biology of invertebrates.

- 402. NATURAL HISTORY OF VERTEBRATES (5). LEC. 4, LAB. 4. Pr., BI 103. Natural history of fishes, amphibians, reptiles, birds and mammals. Laboratory experience will be field technique oriented.
- 411 GENERAL PARASITOLOGY (5). LEC. 4, LAB. 3. Pr., BI 103 or ZY 250 and 251. Winter, Origin, adaptations, physiology and ecology of parasites. Indentification and life histories of representative parasitic protozoa, helminths and arthropods with emphasis on host-parasite relationships.
- FOREST WILDLIFE MANAGEMENT (3). LEC. 3. Pr., FY 523 or departmental approval. Winter Wildlife management as applied to forest properties. Restricted to students in forestry.
- 433. SEMINAR IN FISH AND WILDLIFE LAW ENFORCEMENT (1). Pr., junior standing. Spring, odd years. A weekly seminar course to interface students with professional personnel in the field of fish and wildlife law enforcement. Restricted to students in fisheries, forestry and wildlife management.
- 435. GENERAL OCEANOGRAPHY (3). LEC. 3. Pr., acceptable physics, chemistry, and mathematics background. Winter, odd years. Physical, chemical and geological characteristics of the oceans, especially as they relate to present understanding of marine ecology and the biological productivity of marine waters.
- 436. MARINE BIOLOGY (3). LEC. 3. Pr., ZY 306, 401 or equivalents. Winter, even years. Marine organisms and their adaptations to the environment and other organisms with emphasis on the ecology of marine communities.
- 440. CLINICAL PHYSIOLOGY I (3). LEC. 3. Pr., ZY 250, 251, or equivalents. Coreq., NUR 301. Fall. Consideration of the musculature, the nervous system and the cardiovascular system. Emphasis will be on normal physiological function. Pathological conditions as alterations of normal function will be discussed. Pharmacological treatment of pathological states will be emphasized.
- 441. CLINICAL PHYSIOLOGY II (3), LEC, 3, Pr., ZY 440. Winter, Consideration of temperature regulation, kidney function, the liver, respiration, endocrinology and digestion. Emphasis will be on normal physiological function. Pathological conditions as alterations of normal function will be discussed. Pharmacological treatment of pathological states will be included.
- 445. PATHOPHYSIOLOGY (4). Pr., enrolled in EARN program. Discussion of the normal and altered physiological states of the major organ systems of the body.
- HONORS THESIS (3-6), Pr., senior standing in the honors program. May be repeated once for a maximum of six hours credit.
- 490. WILDLIFE MANAGEMENT INTERNSHIP (5 HRS. PER QUARTER, 15 HRS. MAXIMUM.) departmental approval, SU graded. Provides the student with practical job experience under joint supervision of the Internship advisor and appropriate state, federal or private agency. Training will prepare student for potential career employment.
- 495. UNDERGRADUATE SEMINAR (1). Pr., junior standing. A. Zoology; B. Wildlife Science; C. Marine Biology; D. Molecular Biology. Oral presentation and discussion of research in the area of specialization. May be repeated for credit up to to the limit permitted in respective curriculum model.
- SPECIAL PROBLEMS (1-5). A. Zoology, B. Wildlife Management. C. Marine Biology. A student can register for a total of not more than five hours credit.

#### ADVANCED UNDERGRADUATE AND GRADUATE

- 502. DEVELOPMENTAL BIOLOGY (4). LEC. 4. Pr., ZY 302, 310, 300 or equivalent courses. Fall, even years. Consideration of induction, constancy of the genome, pathfinding by migrating cells and cell processes and morphogenetic movements.
- 509. HISTOLOGY (5). LEC. 4, LAB. 4. Pr., BI 103. Winter. Morphology and classification of tissues; arrangement of tissues in organs and systems of vertebrate animals.
- 516. STUDIES IN FIELD BIOLOGY AND ECOLOGY (8). Pr., major or minor in a biological field. departmental approval. Offered in intervals between quarters. Students should register for the course during the quarter immediately before. Intensive field studies of an area outside Alabama. A travel fee, in addition to tuition will be charged.
- 517. PRINCIPLES OF POPULATION GENETICS (5). LEC. 4, LAB. 3. Pr., ZY 300. Spring, even years. Origin, maintenance and expression of genetic variability in natural populations. Designed especially for students planning to work with populations of organisms, whether with aspects of management, breeding or control.
- MON-MENDELIAN GENETICS (3). Pr., ZY 300. Fall. Current status of behavioral, cytogenetic, cytoplasmic, developmental and recombinational genetics.
- MOLECULAR GENETICS (3). Pr., ZY 300. Fall, even years. Current status of molecular genetics; nucleic acids, regulation, mutagenesis and immunology will be considered.
- 520. HUMAN GENETICS (5). LEC. 5. Pr., ZY 300, CH 208. Spring, odd years. Effects of normal and abnormal chromosome complements, the biological interaction of genes, and the effects of mutation and changes in gene frequency on human populations; problems in small sample analysis, biochemical screening of human "carriers," and the prospects for genetic engineering.

- 524. ANIMAL PHYSIOLOGY (5), LEC. 4, LAB. 3. Pr., 10 hours advanced zoology and CH 207 or five hours advanced zoology, CH 207 and 208. Winter, Summer, General physiological principles common to various vertebrate taxa illustrated with examples that are most demonstrative. An effort is made to include unique physiological adaptations.
- 527. WILDLIFE PHILOSOPHY AND POLICY (3). LEC. 3. Pr., a course in natural resource management. Fall. Examination of attitudes, philosophies and policies that govern management of the wildlife resource. Modern methods used in dealing with the public to implement wildlife policies. Intended for students interested in employment with public or private agencies dealing with natural resources.
- 528. WILDLIFE BIOLOGY (5). LEC. 5. Pr., ZY 328 or concurrent. Winter. Ecology and management of selected wildlife species of the U.S. Emphasis on natural history, census methods and management strategies.
- 528L.WILDLIFE BIOLOGY LABORATORY (2). LAB. 6. Pr., ZY 528 or concurrent. Winter. Practical laboratory exercises to acquaint the student with modern methodology and techniques in studying wild bird and mammal populations.
- 529. WILDLIFE DAMAGE CONTROL (3), LEC. 3, Pr., 10 hours of wildlife ecology and management. Winter, alternate years. Examination of the principles and methods for controlling problems and damage caused by wildlife. Extension and research consideration will be reviewed. Intended for students interested in employment with public or private agencies dealing with wildlife resources.
- 531. WILDLIFE HABITAT ANALYSIS (3), LEC. 1, LAB. 6, Pr., ZY 528, BY 506, Spring. Practical exercises in vegetation analysis, utilization studies, aerial photograph interpretation and cover type mapping.
- 534. PROTOZOOLOGY (5). LEC. 3, LAB. 6. Pr., ZY 310 and 511 or equivalents. Winter, alternate years. Free-living and parasitic protozoa important to agriculture, wildlife and humans. Morphology, cell biology, reproduction, ecology and life histories will be emphasized.
- 536. COMMUNITY ECOLOGY OF MARINE ECOSYSTEMS (3). LEC. 3. Pr., ZY 435 or departmental approval. Spring, odd years. The ecology of coastal and oceanic ecosystems. The dynamics and regulation of population distribution and abundance within terrestrial, intertidal, and subtidal communities.
- 538. GENERAL ICHTHYOLOGY (5). LEC. 3, LAB. 6. Pr., BI 103, Fall. Survey of functional morphology, classification and distribution of fishes. Introduction to faunistic literature of North America and the world. Identification of fishes from the Gulf of Mexico and North American fresh waters.
- 540. WETLAND BIOLOGY (5). LEC. 4, LAB. 4. Pr., ZY 306 or equivalent and departmental approval. Spring, even years. Ecology and biota of freshwater and estuarine wetland habitats with emphasis on North American wetlands. Discussion of practical and theoretical issues related to the conservation, management and maintenance of freshwater and estuarine wetlands. One weekend field trip and one longer field trip required. A research paper is required.
- 542 MARINE FISHERIES MANAGEMENT (6). LEC. 3, LAB. 9. Pr., 18 hours of biology, including BI 103. Summer. Fisheries management philosophy, objectives, problems and principles involved in management decisions. Offered only at the Gulf Coast Laboratory, Ocean Springs, MS.
- 543. MARINE VERTEBRATE ZOOLOGY AND ICHTHYOLOGY (9). LEC. 5, LAB. 12. Pr., 18 hours of biology, including BI 103. The marine chordata, including lower groups and the mammals and birds, with most emphasis on the fishes. Offered only at the Gulf Coast Research Laboratory, Ocean Springs, MS.
- 545. MARINE INVERTEBRATE ZOOLOGY (9). LEC. 5, LAB. 12. Pr., 18 hours biology, including BI 103 and ZY 401. Summer. The marine invertebrates, especially those of the Mississippi Sound region. Emphasis on the structure, classification, phylogenetic relationships and functional processes. Offered only at the Gulf Coast Laboratory, Ocean Springs, MS.
- 548. MARINE ECOLOGY (7.5), LEC. 3, LAB. 6. Pr., ZY 306 and acceptable chemistry. Summer. The relationship of marine organisms to their environment and the effects of the environment on the abundance and distribution of marine organisms. Offered only at the Gulf Coast Laboratory, Ocean Springs, MS.
- ZOOGEOGRAPHY OF THE VERTEBRATES (5). LEC. 4, LAB. 3. Pr., ZY 402 or departmental approval. Spring, odd years. Principles of geographic distribution of vertebrate animals.
- 551. MARINE INVERTEBRATE ZOOLOGY (6). LEG. 4, LAB. 4. Pr., BI 103 plus 10 hours of zoology at the 200-level or above. Summer. The natural history, systematics and morphology of marine invertebrates from a variety of habitats in the Gulf of Mexico, oriented toward a field and laboratory approach. Participation in extended field trips is part of the course. Taught only at the Dauphin Island Sea Lab.
- 553. MARINE VERTEBRATE ZOOLOGY (6), LEC. 4, LAB. 4, Pr., BI 101, 103 and departmental approval. Summer. The systematics, zoogeography and ecology of marine fishes, reptiles, and mammals. Taught only at the Dauphin Island Sea Laboratory. May not be substituted for ZY 402.
- 554. COASTAL ORNITHOLOGY (6). LEC. 3, LAB. 9. Pr., ZY 402. Summer. Coastal and pelagic birds with emphasis on ecology, taxonomy and distribution. Taught only at the Dauphin Island Sea Laboratory. May not be substituted for ZY 605.

#### Zoology and Wildlife Science

- 555. MARINE ECOLOGY (6). LEC. 3, LAB. 9. Pr., ZY 306, college physics and chemistry and departmental approval. Summer. Bioenergetics, community structure, population dynamics, predation, competition and speciation in marine eco-systems. Taught only at the Dauphin Island Sea Lab.
- 556. BEHAVIOR AND NEUROBIOLOGY OF MARINE ANIMALS (6), LEC. 5, LAB. 10. Pr., 20 hours of zoology, psychology and departmental approval. Survey of the behavior, neuroanatomy and neurophysiology of selected marine invertebrates and vertebrates. Taught only at the Gulf Coast Research Laboratory.
- 558. MARINE BIOLOGY FOR TEACHERS (9). LEC. 12, LAB. 18. Pr., BI 101, 102, 103, departmental approval. Summer. Introduction to the marine environment and marine organisms, their behavior and ecology, for teachers. Taught at the Dauphin Island Sea Lab. This is a five-week course.
- 560. MAMMALIAN PHYSIOLOGY I (5). LEC. 4, LAB. 3. Pr., CH 208, ZY 250 or equivalent and ZY 310 or biochemistry. Fall, Spring. Cellular bioelectric phenomena, muscle contractility, neurophysiology and cardiovascular physiology. Lab will use modern methodology for the observation of physiological fact.
- MAMMALIAN PHYSIOLOGY II (5). LEC. 4, LAB. 3. Pr., ZY 560 or equivalent. Winter, Summer. A
  continuation of ZY 560 with emphasis on respiratory, renal, digestive, metabolic and endocrine physiology.
- ETHOLOGY (5). LEC. 4, LAB. 3. Pr., ZY 306, 522, 524 or departmental approval. Spring. Animal behaviors, analysis of their adaptive values, development and evolution.
- 574. HERPETOLOGY (5). LEC. 3, LAB. 6. Pr., 15 hours of biology beyond the freshman level. Spring, Summer. Systematics, ecology and behavior of amphibians and reptiles.
- 575. ORNITHOLOGY (5). LEC. 3, LAB. 6. Pr., 15 hours of biology beyond the freshman level. Spring. Systematics, ecology and behavior of birds.
- MAMMALOGY (5), LEC. 3, LAB. 6. Pr., 15 hours of biology beyond the freshman level. Winter. Systematics, behavior and ecology of mammals.
- SPECIAL TOPICS IN MARINE BIOLOGY (1-5) Pr., departmental approval. Comprehensively directed studies in marine biology. Taught at the Dauphin Island Sea Lab.
- SPECIAL TOPICS IN ZOOLOGY (1-5). Pr., departmental approval. Comprehensively directed studies in zoology.

iThe parenthetical designation after a faculty member's tille indicates the department. The first date after the title indicates the year of first appointment to any position in the institution; the second, the year of appointment of present rank.)

## GENERAL ADMINISTRATIVE OFFICERS

MUSE, WILLIAM V., President & Professor (Marketing & Transportation), 1992. B.S., Northwestern State: M.B.A., Ph.D., Arkansas

PARKS, PAUL F., Provost & Vice President for Academic Affairs & Professor (Animal & Dairy Science), 1965, 1993. B.S., M.S., Aubum, Ph.D., Texas A&M

MORIARTY, C. MICHAEL, Associate Provost & Vice President for Research (Adm.-VP Research), 1994. B.S., Carnegie. Mellon: M.S., Cornell: Ph.D., Rochester

WILSON DAVID, Associate Provost & Vice President for University Outreach, 1995. B.S., M.Ed., Tuskegee, M.Ed., Ed.D., Harvard

BARNES, PAT H., Vice President for Student Affairs, 1985, B.A., Texas Woman's; M.Ed., Ed.D., Auburn

Vice President for Alumni Administration to be named.

FERGUSON, JIMMY DAN, Vice President for Administrative Services, 1993. B.S., M.B.A., Ph.D., Texas A&M

LARGE, DONALD L., Vice President for Business & Finance, 1986, 1991. B.S., M.Ed., Aubum

SAIGO, ROY H., Chancellor of Auburn University at Montgomery, 1994, B.A., California-Davis, Ph.D., Oregon State

ARMSTRONG-WRIGHT, DEBRA A., Executive Director, Affirmative Action/Equal Employment Office, 1990. B.A., M.Ed., Aubum: J.D., Alabama

BROWN, JAMES C., Assistant to the President for Minority Advancement, 1993. B.S., M.Ed., Mississippi State; Ed.D., Missis-

HOUSEL, DAVID E., Director of Intercollegiate Athletics, 1970, 1994. B.A., Aubum

LEISCHUCK, EMILY R., Assistant to the President for Special Projects, 1974, 1983. B.S., Alabama; M.Ed., Auburn

LEISCHUCK, GERALD S., Executive Assistant to the President & Secretary to the Board of Trustees, 1962, 1992. A.B., M.A., North Colorado; Ed.D., Auburn.

LOWTHER, G. SAM, Executive Director, Planning & Analysis, 1978, 1993, B.S., M.B.A., Auburn

MITCHELL, ALFRED H., Executive Director, Governmental Affairs, B.A., Auburn

PEPINSKY, PETER R., Executive Director, University Relations, B.A., Aubum

General Counsel to be named.

#### ACADEMIC ADMINISTRATIVE OFFICERS

MARION, JAMES E., Dean of Agriculture, 1988. B.S., Berea; M.S., Kentucky; Ph.D., Georgia

REGAN, J. THOMAS, Dean of Architecture, 1994. B.Arch., Auburn; Graduate Diploma, London

ALDERMAN, CHARLES W., Dean of Business, 1977, 1993. B.S., M.B.A., Aubum, D.B.A., Tennessee

KUNKEL, RICHARD C., Dean of Education, 1990. B.S.Ed., N.E. Missouri State; M.Ed., Missouri, Ph.D., St. Louis

WALKER, WILLIAM F., Dean of Engineering, 1988. B.S., M.S., Texas: Ph.D., Oklahoma State

THOMPSON, EMMETT, Dean & Professor of Forestry, 1977, 1985. B.S., Oklahoma State; M.S., North Carolina State; Ph.D., Oregon State HENTON, JUNE M., Dean of Human Sciences & Professor (Family & Child Development), 1985. B.S., Oklahoma State; M.S.,

Nebraska: Ph.D., Minnesota

BOND, GORDON, Dean of Liberal Arts, 1967, 1992. B.S., M.A., Ph.D., Florida State

KITCHENS, EDETH K., Dean of Nursing, 1989. B.S.N., Alabama-Huntsville; M.S.N., Alabama-Birmingham; Ph.D., Alabama R. LEE EVANS, JR., Dean of Pharmacy, 1994. B.S., Ph.D.

SCHNELLER, STEWART W., Dean of Sciences & Mathematics, 1994. B.S., M.S., Louisville, Ph.D., Indiana U.

VAUGHAN, JOHN T., Dean of Veternary Medicine, 1974, 1977. D.V.M., M.S., Auburn

DOORENBOS, NORMAN J., Dean & Professor, Graduate School, 1986, B.S., M.S., Ph.D., Michigan

FROBISH, LOWELL T., Executive Director, Agricultural Experiment Station, 1986. B.S., Illinois, M.S., Ph.D., Iowa State

HIGHFILL, WILLIAM C., Dean of Libraries, 1973, 1992. A.B., Oklahoma Baptist; M.S., Kansas State; Ph.D., Illinois

FIELDS, KENT T., General Faculty Chairman & Associate Professor (Accountancy), 1984. B.B.A., N. Texas; M.P.A., Texas; Ph.D., Texas A&M

#### FACULTY AND STAFF

ABBETT, VANCE N., Instructor (Political Science), 1986, 1987, B.S., Troy State; J.D., Jones Law

ABELL, ELLEN, Assistant Professor (Family & Child Development), 1993. B.A., Illinois; M.A., Ph.D., Washington State ABERNETHY, AVERY M., Associate Professor (Marketing & Transportation), 1988, 1994, B.S., B.A., North Carolina; Ph.D., South Carolina

ACOSTA, VERONICA M., Assistant Professor (Health & Human Performance), 1991. B.S., St. Louis; M.S., Ph.D., Wisconsin

ADAMS, JAMES F., Associate Professor (Agronomy & Soils), 1985, 1992. B.S., M.S., Aubum, Ph.D., Kansas State

ADAMS, JAMES W., Associate Professor (Marketing & Transportation), 1969, B.B.A., M.B.A., D.B.A., Georgia State

ADAMS, MURRAY C., Associate Professor (Sociology), 1969, 1989. B.A., M.A., Mississippi; Ph.D., Kentucky

ADANUR, SABIT, Assistant Professor (Textile Engineering), 1992. B.S., Istanbul Tech; M.S., Ph.D., North Carolina State ADERHOLT, JOSEPH M., Specialist (Chemical Engineering), 1983.

ADERHOLDT, MARK W., Associate Mechanical Engineer, Architect's Office, 1994. B.S., Auburn

ADERHOLDT, ROBERT W., Professor, (Building Science), 1980, 1992. B.M.E., M.S., Auburn. Ph.D., Georgia Tech

ADKINS, BENNIE G., Instructor, Facilities, 1990. B.S., M.S., M.S., Troy State

ADRIAN, JOHN L., Professor (Agricultural Economics & Rural Sociology), 1974, 1984. B.A.A., M.S., Aubum; Ph.D., Tennes-

ALBEE, RICHARD D., Art Coordinator, University Relations, 1986. B.F.A., Aubum.

ALBERT, LLOYD, Superintendent, Facilities, 1984, 1989.

ALBERTSON-ZENOR, PATRICIA, Mgt. Scientist, Ext. Affairs/ATAC, 1988, 1990. A.S., Penn State; B.S., Juniata; M.B.A., Indiana- Pennsylvania

ALBRECHT, ULRICH F., Professor (Mathematics), 1984, 1987. B.S., M.S., Essen; Ph.D., New Mexico State; Ph.D., Duisburg ALDERMAN, CHARLES W., Dean (Adm.-Business), 1977, 1993. B.S., M.B.A., Aubum; D.B.A., Tennessee

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ALDRIDGE, CLARK, Director, Student Financial Aid, 1990. B.S., M.Ed., Northwest State
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ALDRIDGE, M. DAYNE, Eminent Scholar, Walter Ctr. for Technology Mgmt., 1984, 1994, B.S., W. Virginia; M.E.E., D.Sc., Virginia

ALEKNA, RICHARD A., Director, Distance Learning & Outreach Technology, 1991, 1993. B.A., M.A., Indiana State

ALEXANDER, DAVID E., Associate Professor (Music), 1972, 1984, B.M., M.M., Texas

ALLEN, GEORGE, W., Manager (Mechanical Engineering), 1979, 1990.

ALLEN, JUDY R., Assistant to the Dean II (Adm.-Sciences & Mathematics), 1981, 1992.

ALLEN, SARA L. Administrative Assistant III, Housing & Res. Life, 1975, 1985.

ALLEN, VIRGINIA W., Specialist (Educational Foundations, Leadership and Technology), 1994. B.Sc., Nebraska

ALLEY, KELLY D., Assistant Professor (Sociology), 1991. B.S., Cornell; M.A., Ph.D., Wisconsin

ALVAREZ, NICOLAS E., Professor (Foreign Languages & Literatures), 1989, 1991. B.A., Puerto Rico, M.A., Ph.D., Berkeloy

ALVERSON, THELMA B., Senior Academic Advisor (Adm.-Sciences & Mathematics), 1982, 1994. B.S., Auburn

ALVERSON, WILLIAM J., Assistant Dean (Adm.-Agriculture), 1965, 1983. B.S., M.Ed., Aubum

ANDERSON-HARPER, HEIDI, Associate Professor (Pharmacy Care Syst.), 1989, 1993. B.S., M.S., Ph.D., Purdue

ANDERSON, BRIAN D., Specialist III, University Computing, 1994. B.S., Oklahoma State

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Vegetation Management Research
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#### NUTRITION AND FOOD SCIENCE

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#### SUBSTATIONS AND FIFLDS

#### Black Belt-Marion Junction, Dallas County

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### North Alabama Horticulture-Cullman, Cullman County

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#### Ornamental Horticulture Substation-Spring Hill, Mobile County

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### Piedmont Substation-Camp Hill, Tallapoosa County

OWEN, JOHN T., Superintendent, 1989. B.S., Auburn

#### Sand Mountain-Crossville, DeKalb County

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#### Tennessee Valley-Belle Mina, Limestone County

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#### Wiregrass-Headland, Henry County

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#### Agriculture

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#### Department Heads

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#### DIRECTOR'S OFFICE

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#### PROGRAM ASSIGNMENTS

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#### Fisheries

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#### Plant Pathology

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HOWARD, CHARLES, County Agent, 1979, 1988. B.S., Auburn; M.S., Mississippi State LACKEY, I. JANNETTE, County Agent, 1965, 1980. B.S., Auburn; M.S., Tennessee TUCKER, KEVAN, Extension Associate, Environmental Management, 1993. B.S., Mississippi State WOOD, FRANKLIN H., County Agent-Coordinator, 1963, 1977. B.S., M.Agr., Auburn

Mobile County - Mobile

BARTON, MYRA N., County Agent, 1968, 1982. B.S., Montevallo; M.S., S. Alabama DAY, MARJORIE S., County Agent, 1972, 1964. B.S., Auburn; M.S., Alabama DENNISON, HAROLD M., County Agent, Coordinator, 1978, 1992. B.S., Tennessee; M.S., Alabama GLOVER, TONY, County Agent, 1984, 1992. B.S., M.S., Auburn M.S., S., Alabama GREER, ANDREW D., County Agent, 1973, 1985. B.S., Auburn; M.S., S., Alabama HARTSELLE, JANE T., Assistant County Agent, 1992. B.S., Auburn; M.S., South Alabama McCOLLUM, JULIA, County Agent, 1975, 1988. B.S., North Carolina A&T; M.S., Southern Mississippi MILES, JAMES, Assistant County Agent, 1991. B.S., Nalabama A&M WHITE, ROBERT W., Associate County Agent, 1989, 1992. B.S., M.S., Auburn

Monroe County - Monroeville

GAMBLE, MIKE M., County Agent, 1966, 1979. B.S., Mississippi State
MUSSON, GLORIA R., County Agent, 1983, 1991. B.S., Auburn; M.S., Southern Mississippi
RUFFIN, RODIE M., County Agent-Coordinator, 1973, 1989. B.S., M.Ed., Tuskegee

Montgomery County - Montgomery

BROWN, JUDITH, County Agent, 1970, 1980. B.S., M.Ed., Aubum
COOK, SHARON H., Associate County Agent, 1990. B.S., M.Ed., Tuskegee
CRAFT, LARRY J., County Agent, 1980, 1985. B.S., M.S., Aubum
HANKS, BOBBY L., County Agent-Coordinator, 1974, 1990. B.S., M.S., Aubum
HEPBURN, VANESSA F., Assistant County Agent, 1994. B.S., Aubum
OSBY, PARICO, Assistant County Agent, 1993. B.S., Tuskegee; M.A., Central Michigan
PINKSTON, ANTHONY D., Assistant County Agent, 1993. B.A., SUNY; M.S., Aubum

Morgan County - Hartselle

BRITNELL, RONALD W., County Agent, 1976, 1987, B.S., Auburn; M.S., Alabama A&M CARTER, WATKINS, County Agent-Coordinator, 1967, 1987, B.S., M.S., Mississippi State DUTTON, JULIA A., County Agent, 1977, 1988, B.S., Tennessee Tech; M.S., Alabama A&M GAMBLE, KENNETH W., Assistant County Agent, 1990, B.S., M.S., Alabama A&M GOTTLER, THELMA E., County Agent, 1974, 1984, B.S., M.A.T., Montevallo

Perry County - Marion

DANIEL JONES, County Agent-Coordinator, 1982, 1993. B.S., Tuskegee; M.S., Mississippi State

Pickens County - Carrollton

HENDERSON, THEODIS, County Agent, 1975, 1991. B.S., Alabama A&M PRESLEY-FULLER, PATTI, Associate County Agent, 1988, 1991. B.S., M.S., Mississippi State WIGGINS, SAM, County Agent-Coordinator, 1983, 1991. B.S., Aubum; M.S., Troy State

Pike County - Troy

BARNES, DENA L., County Agent, 1973, 1986. B.S., M.Ed., Auburn CARPENTER, DAVID B., County Agent, 1975, 1982. B.S., Auburn POWELL, TAMMARA A., County Agent-Coordinator, 1978, 1990. B.S., Montevallo; M.S., Alabama A&M THORPE, TARON, Associate County Agent, 1991, 1994. B.S., M.B.A., Auburn

Randolph County - Wedowee

HARDIN, CHRISTINE B., County Agent-Coordinator, 1978, 1994. B.S., N. Alabama; M.Ed., Auburn NELSON, ELAINE E., County Agent, 1969, 1982. B.S., Jacksonville State; M.S., Auburn PARRISH, RUSSELL, County Agent, 1982, 1991. B.S., M.S., Auburn

Russell County - Phenix City

BICE, DONALD, County Agent, 1970, 1986, B.S., B.S., M.S., Auburn LOCKE, KIMBERLY, Assistant County Agent, 1994, B.S., Alabama REEDER, JESSE A., Assistant County Agent, 1992, B.S., M.S., Auburn WILSON, BETTY H., County Agent-Coordinator, 1971, 1983, B.S., Montevallo; M.Ed., Auburn

Shelby County - Columbiana

COLOUITT, RICKY, Associate County Agent, 1988, 1994. B.S., Auburn PRUCNAL, PEGGY A., County Agent-Coordinator, 1969, 1981. B.S., M.S., Jacksonville State TREADAWAY, ANGELA, County Agent, 1985, 1994. B.S., M.A.T., Montevallo WYNN, NELSON. Assistant County Agent, 1993. B.S., Alabama A&M

St. Clair County - Pell City

BRICE, DOROTHY P., County Agent-Coordinator, 1970, 1986. B.S., Alabama A&M; M.A.T., Montevallo DICKINSON, DONNA M., County Agent, 1978, 1986. B.S., N. Alabama LESTER, DONALD, County Agent, 1973, 1988. B.S., M.Ed., Aubum

Sumter County - Livingston

LAMPLEY, WILLIE H., Associate County Agent, 1986, 1992, B.S., Tuskegee; M.Ed., Alabama A&M SHIRLEY, DENISE R., Associate County Agent-Coordinator, 1988, 1991, B.S., Auburn; M.S., Livingston

Talladega County - Talladega

JURRIAANS, WANDA P., County Agent-Coordinator, 1965, 1981. B.S., Jacksonville State; M.A., Aubum WILLIAMS, JAMES R., Multi-County Agent, 1980, 1989. B.S., M.S., Aubum

Tallapoosa County - Dadeville

HANKS, JERRY G., County Agent-Coordinator, 1970, 1988, B.S., M.S., Auburn MARTIN, NELDA B., County Agent, 1971, 1982, B.S., Alabama; M.A., Auburn

Tuscaloosa County - Tuscaloosa

BLACKMON, EVELYN, County Agent, 1965, 1983. B.S., Alabama A&M; M.A., Alabama COOK, JO ANN H., County Agent-Coordinator, 1970, 1991. B.S., M.S., Alabama FORD, STANLEY W., County Agent, 1979, 1988. B.S., Auburn; M.S., Mississippi State GLADNEY, JONATHAN, Assistant County Agent, 1994. B.S., M.S., Auburn WEATHERLY, R. LLOYD, County Agent, 1984, 1992. B.S., Murray State; M.Ag., Mississippi State WILSON, VERA J., County Agent, 1965, 1982. B.S., Alabama A&M

Walker County - Jasper

BOYD, DEWAREN, Assistant County Agent, 1994. B.S., Auburn
CAIN, DANNY, Assistant County Agent. 1992. B.S., M.S., Auburn
CHERRY C. HOVATTER, County Agent, 1982, 1992. B.S., Auburn; M.S., Samford
SHIRLEY WHITTEN, County Agent-Coordinator, 1981, 1991. B.S., Auburn; M.S., Alabama A&M

Washington County - Chatom

DICKEY, PATRICIA ANN, County Agent, 1968, 1990. B.S., Alabama FULLER, THOMAS E., County Agent-Coordinator, 1969, 1980. B.S., M.S., Auburn THREATT, ARTHUR L., County Agent, 1980, 1987. B.S., M.S., Alabama A&M

Wilcox County - Camden

HOLLINGER, BETTY B., County Agent-Coordinator, 1977, 1987. B.S., M.A.T., Montevallo MOHLAHLANE, PHIL, Associate County Agent. 1991, 1994. B.S., M.S., Tuskegee

Winston County - Double Springs

WEST, JEAN P., County Agent-Coordinator, 1972, 1989. B.S., M.Ext.Ed., Alabama;

### **Engineering Experiment Station Staff**

MUSE, WILLIAM V., President, 1992. B.S., Northwestern State; M.B.A., Ph.D., Arkansas MORIARTY, C. MICHAEL, Associate Provost & Vice President for Research (Adm.-VP Research), 1994. B.S., Carnegie Mellon; M.S., Cornell; Ph.D., Rochester

WALKER, WILLIAM F., Dean of Engineering, 1988. B.S., M.S., Texas; Ph.D., Oklahoma State JOHN M. OWENS, Director, 1991. B.S.E.E., California, M.S., Ph.D., Stanford

REESE, BETTY C., Manager, Engineering Business and Finance, 1973, 1994. B.S., Alabama A&M

Dual roles are performed by faculty and staff of the College of Engineering who serve also as personnel of the Engineering Experiment Station.

### Engineering Extension Service Staff

MUSE, WILLIAM V., President, 1992. B.S., Northwestern State; M.B.A., Ph.D., Arkansas
WILSON, DAVID, Associate Provost and Vice President for University Outreach, 1995. B.S., M.Ed., Tuskegee; M.Ed., Ed.D., Harvard

WALKER, WILLIAM F., Dean of Engineering, 1988. B.S., M.S., Texas; Ph.D., Oklahoma State BRYANT, JAMES O., Associate Dean for Extension, 1994. B.S., Ph.D., Clemson; M.S., Rice PILSCH, THOMAS D., Director Engineering Extension/Auburn, 1994. B.S.E. Air Force; M.S.E., Princeton AVERYT, A. HENRY, Director, Engineering Extension/Birmingham, 1972, 1990. B.M.E., Auburn, M.S.I.M., Purdue McCREARY, JERRY D., Industrial Extension Engineer, 1994. B.A., Olivet; B.S., Flonda International; Ph.D., Auburn RIDGWAY, ELAINE H., Program Developer III, 1989, 1993. B.S., Auburn NAGLE, LUELLEN, Program Developer III, 1972, 1976. B.S., Auburn REUTTER, BELINDA D., Program Developer II, 1994. B.A., Texas CARRINGTON, C. JAN, EPA Project Coordinator, 1986. SELLERS, J. LARRY, Administrative Assistant, 1984. B.S., Auburn; M.S., Troy State

Dual roles are performed by faculty and staff of the College of Engineering who serve also as personnel of the Engineering Extension Service.

## State Regulatory and Veterinary Services provided by the Alabama Department of Agriculture and Industries

## C.S. Roberts Veterinary Diagnostic Laboratory

ALLEY, J. LEE*, State Veterinarian & Director, Division of Animal Industry, 1977. D.V.M., M.S., Auburn HOERR, FREDERIC J.*, Laboratory Director, 1987. D.V.M., Ph.D., Purdue D'ANDREA, GEORGE*, Pathology and Toxicology, 1980. D.V.M., M.S., Auburn LAUERMAN, LLOYD H., JR.*, Microbiology, 1981. D.V.M., Washington State; Ph.D., Wisconsin NUEHRING, LELAND P.*, Pathology, 1990. D.V.M., lowa State; M.S., Ph.D., Georgia ROWE, SARA E.*, Microbiology, 1992. B.S., D.V.M., M.S., Auburn

* Affiliate faculty in the College of Vetennary Medicine

#### Pesticide Residue Laboratory

BLOCH, JOHN A., Director, Division of Plant Protection and Pesticide Management, 1975. Ph.D., North Carolina LECOMPTE, OSCAR D., Laboratory Director, 1986. B.S., Troy State

#### State Chemical Laboratory

HESTER, LANCE M., Director, Division of Agricultural Chemistry, 1991. B.S. Aubum JINKS, JOHN D., Director, 1968. B.S., Aubum

## Enrollment By Curriculum - Fall Quarter, 1994

Curriculum	Undergraduate & 1st Prof. Male Female					
Contract of		Female	Male	Female	Total	
COLLEGE OF A						
Agricultural Business and Economics (AEC) (ECA)		20	20	10	141	
Agricultural Engineering (AN)	2	3	-	-	5	
Agricultural Science (AG)		3	-	-	28	
Agronomy and Soils (AY)	66	11	34	12	123	
Animal and Dairy Sciences (ADS) (ADPV)	125	153	17	8	303	
Entomology (ENT)	94	4	12	3 19	15	
Fisheries and Allied Aquacultures (FAA) (FPV) Horticulture (HF)	109	54	12	7	182	
Integrated Pest Management (ENTI)	4	2	-	-	6	
Plant Pathology (PLP)	1010101010	-	17	8	25	
Poultry Science (PH) (PHPV)		5	11	8	75	
Rural Sociology (RSY)	2	3	-	70	5	
TOTAL AGRICULTURE		258	211	75	1,043	
SCHOOL OF AF						
Architecture (AR) (ARS)		58	-	-	266	
Building Science (BSC)  Community Planning (CP)	132	7	10	2 5	149	
Industrial Design (IND)	113	10	2	5	130	
Interior Design (ID) (IDS)	5	53	_	-	58	
Landscape Architecture (LA) (LAS)	39	16	-	-	55	
Pre-Architecture (PAR)		46	-	-	160	
Pre-Building Science (PBSC)	169	8	-	-	177	
Pre-Industrial Design (PIND)	mannana 4	2			13	
Pre-Interior Design (PID) Pre-Landscape Architecture (PLA)	10	12			18	
TOTAL ARCHITECTURE	705	220	20	12	1.047	
				12.		
COLLEGE OF						
Accountancy (AC)	71	78	17	7	173	
Business Administration (BA)	mtatte 3	2	166	75	246	
Economics (EC) (ECB)	01	9 28	34	10	122	
Finance (FI) Human Resources Management (HRMN)	18	29	_	_	47	
International Business (IB)	89	119	_	-	208	
Management Information Systems (MIS)		42	10	2	137	
Management (MN)	70	35	27	15	147	
Marketing (MK)		37	-	1	96	
Operations Management (OM)	42	9 580			1,626	
Pre-Business (PB) Transportation (TN)	23	3			26	
Transportation (IN)	1 598	971	255	112	2.936	
			200		2,000	
COLLEGE OF		33	11	30	110	
Adult Education (VAD) Agricultural Education (VAG)	95	- 55	7	-	32	
Behavior Disturbance Education (RSB)	3	22	11	13	39	
Business Education (VRII)		9	3	12	24	
Community Agency Counseling (CCA)	**********	-	7	35	42	
Counseling Psychology (COP)	1010110101	-	8	19	27	
Councelor Education (CCP) (CED)	THE PERSON STREET	-	12	23	35	
Curriculum and Instruction (ACI)	2	-	4	4	8	
Distributive Education (VDE)	5	325	=	28	358	
Early Childhood Education (CEC) Early Childhood Education for the Handicapped (RSC)	1	40	1	19	61	
Educational Psychology (EPG)		-	5	7	12	
Educational Leadership (AFD)	and a second state of the second seco	-	4	5	9	
Elementary Education (CEE)	20	349	2	37	408	
Flementary/Secondary Admin. (AES)			11	12	23	
Exercise Science (HES)	59	50			109	
General Education (GCE)	30	86	2	1	122	
Health and Human Performance (HHP)  Human Movement Studies (HPE)	1	1	43	29	74	
Health Occupations Education (VHO)		1	1	_	2	
Health Promotion (HEP)	79	82	-	-	161	
Health Promotion (HEP)						
Higher Education Administration (AHE)  Home Economics Education (VHE)		10	19	19 7	38	

Industrial Arts Education (VIV)	Curriculum		Jate & 1st Prof.		iduate Female	Total
Learning Disabilities (RSL)	industrial Arts Education (VIA)	Male 6	Female	Male 2	remaie	
Media Specialist (MSE)	Learning Disabilities (RSL)	restores street	-		11	
Mental Felandation Education (FSM)			-	-		
Music Education (CMM)			22	4		
N-12 Physical Education (HPEN)						
Reading Specialat (CNR)	N-12 Physical Education (HPEN)	41		-	-	
Recreation Administration (HRA)	Public School Counseling (CPS)		-	2		
Recreation and Sport Management (HRS)			-	-	3	
Rehabilitation and Special Education (RSE) (RSH) (RSX)			2	=	=	
Rehabilitation Courseling (CRC)				-	8	
Schoole Psychology/Psychonetry (CSP)			-	-	.5	5
Secondary School - English (CSE)			45			
Secondary School - Foreign Language (CSF)			5			
Secondary School - Mathematics (CSM)				/		
Secondary School - Science (CSC)   25   50   7   20   102   Secondary School - Science (CSS)   50   40   10   4   104   Speech Pathology Education (RSS)				7		
Secondary School - Social Science (CISS)			0.00			
Student Development (CSD)			40	10	4	104
Trade and Industrial Education (VED)			65	-	-	
Vocational and Adult Education (VED)			7			
COLLEGE OF ENGINEERING   Agricultural Engineering (AE)						
Aerospace Engineering (AE)						
Aerospace Engineering (AE)				240	494	2,021
Agricultural Engineering (AN)	7,777,777		17	24		140
Aviation Management (AMA)				34	3	
Airway Science Management (AMA) 1	Aviation Management:		*			13
Aviation Management (AM)			-	-	-	
Basic Aviation Mgt. (AMN)			_	-	-	
Professional Flight MgI. (AMF). 70 4 — 74 Chemical Engineering (CHE). 241 90 61 11 403 Civil Engineering (CHE). 274 77 77 23 451 Computer Engineering (CPE). 126 20 49 10 205 Computer Science (CSS). 30 14 31 6 81 Electrical Engineering (EE). 291 42 79 7 419 Electrical Engineering (EE). 75 61 — 136 Forest Engineering (FYE). 11 — 11 Geological Engineering (GE). 3 3 3 — 6 Forest Engineering (GE). 3 3 3 — 6 Forest Engineering (IE). 59 30 48 14 151 Manufacturing Systems Engr. (MFE). — 13 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Aviation Management (AM)			-		
Chemical Engineering (CFE)				=	=	
Civil Engineering (CE)				61	11	
Computer Science (CS)			77	77	23	451
Electrical Engineering (EE)						
Environmental Science (ENS)						
Forest Engineering (FYE)				79	7	
Geological Engineering (GE)			61		3	
Industrial Engineering (IE)			3	-		
Manufacturing Systems Engr. (MFE)				48	14	
Mechanical Engineering (ME)   363   56   82   9   510     Pre-Aerospace Engineering (PAE)   53   17   -   70     Pre-Agricultural Engineering (PAM)   5   2   -   70     Pre-Agricultural Engineering (PAM)   70   12   -   82     Pre-Chemical Engineering (PCHE)   141   69   -   210     Pre-Chemical Engineering (PCE)   100   27   -   127     Pre-Computer Engineering (PCPE)   64   8   -   72     Pre-Computer Engineering (PCPE)   93   13   -   106     Pre-Electrical Engineering (PEE)   93   13   -   106     Pre-Engineering (PN)   234   51   -   285     Pre-Fengineering (PN)   234   51   -   285     Pre-Forestry Engineering (PFYE)   11   2   -   13     Pre-Gological Engineering (PIE)   9   13   -   22     Pre-Materials Engineering (PIE)   9   13   -   22     Pre-Materials Engineering (PMTL)   6   2   -   8     Pre-Materials Engineering (PME)   91   13   -   104     Pre-Textile Chemistry (PTC)   12   4   -   16     Pre-Textile Engineering (PTE)   32   16   -   48     Pre-Textile Engineering (PTE)   32   16   -   48     Pre-Textile Engineering (PTE)   32   16   -   48     Pre-Textile Engineering (PTE)   32   16   -   30     Textile Engineering (TE)   15   15   -   30     Textile Chemistry (TC)   2   3   3   3     Textile Engineering (TE)   14   6   -   20    Total Engineering (TE)   15   15   -   30    Textile Management and Technology (TMT)   14   6   -   20    Total Engineering (FYC)   41   1   -   48    Forest Products (FP)   -   -   1   4    Forest Products (FP)   -   -   4    Forest Products (FP)   -   -   4    Forestry (PFY)   75   11   -   86			-	13	1	14
Pre-Aerospace Engineering (PAE)         53         17         —         70           Pre-Agricultural Engineering (PAN)         5         2         —         7           Pre-Aviation Management (PAM)         70         12         —         82           Pre-Chemical Engineering (PCE)         141         69         —         210           Pre-Chwil Engineering (PCE)         100         27         —         127           Pre-Computer Engineering (PCE)         64         8         —         72           Pre-Computer Science (PCPS)         27         12         —         39           Pre-Electrical Engineering (PEE)         93         13         —         106           Pre-Environmental Science (PENS)         16         26         —         42           Pre-Environmental Science (PENS)         16         26         —         42           Pre-Environmental Science (PENS)         16         26         —         42           Pre-Forestry Engineering (PEE)         93         13         —         106           Pre-Forestry Engineering (PFYE)         11         2         —         13           Pre-Forestry Engineering (PFYE)         11         2         —         13						
Pre-Agricultural Engineering (PAN)         5         2         —         7           Pre-Avaltion Management (PAM)         70         12         —         82           Pre-Chemical Engineering (PCHE)         141         69         —         210           Pre-Civil Engineering (PCE)         100         27         —         127           Pre-Computer Engineering (PCPE)         64         8         —         72           Pre-Computer Science (PCPS)         27         12         —         39           Pre-Computer Science (PCPS)         21         2         —         39           Pre-Computer Science (PCPS)         21         2         —         30           Pre-Engineering (PEE)         93         13         —         106           Pre-Environmental Science (PCPS)         11         2         —         13           Pre-Foresty Engineering (PNE)         11         1         2         13           Pre-Fo				82	9	
Pre-Aviation Management (PAM)         70         12         —         82           Pre-Chemical Engineering (PCHE)         141         69         —         210           Pre-Civil Engineering (PCE)         100         27         —         127           Pre-Computer Engineering (PCPE)         64         8         —         72           Pre-Computer Science (PCPS)         27         12         —         39           Pre-Electrical Engineering (PEE)         93         13         —         106           Pre-Environmental Science (PENS)         16         26         —         42           Pre-Engineering (PN)         234         51         —         285           Pre-Forestry Engineering (PFYE)         11         2         —         13           Pre-Geological Engineering (PFE)         —         1         —         13           Pre-Geological Engineering (PIE)         —         1         —         13           Pre-Geological Engineering (PIE)         —         9         13         —         22           Pre-Machanical Engineering (PIE)         —         9         13         —         12           Pre-Mechanical Engineering (PME)         91         13						
Pre-Chemical Engineering (PCE)         141         69         —         210           Pre-Civil Engineering (PCE)         100         27         —         127           Pre-Computer Engineering (PCPE)         64         8         —         72           Pre-Computer Science (PCPS)         27         12         —         39           Pre-Electrical Engineering (PEE)         93         13         —         106           Pre-Environmental Science (PENS)         16         26         —         42           Pre-Engineering (PN)         234         51         —         285           Pre-Forestry Engineering (PN)         234         51         —         285           Pre-Forestry Engineering (PFYE)         11         2         —         13           Pre-Forestry Engineering (PFYE)         11         2         —         13           Pre-Forestry Engineering (PIE)         9         13         —         2           Pre-Industrial Engineering (PIE)         9         13         —         12           Pre-Machanical Engineering (PME)         91         13         —         104           Pre-Textille Chemistry (PTC)         12         4         —         18      <						
Pre-Civil Engineering (PCE)         100         27         —         127           Pre-Computer Engineering (PCPE)         64         8         —         72           Pre-Computer Science (PCPS)         27         12         —         39           Pre-Electrical Engineering (PEE)         93         13         —         106           Pre-Environmental Science (PENS)         16         26         —         42           Pre-Engineering (PN)         234         51         —         28           Pre-Forestry Engineering (PFYE)         11         2         —         13           Pre-Forestry Engineering (PFYE)         91         13         —         12           Pre-Industrial Engineering (PIE)         9         13         —         2         8           Pre-Mechanical Engineering (PME)         91         13         —         104<				-	-	
Pre-Computer Science (PCPS)         27         12         —         39           Pre-Electrical Engineering (PEE)         93         13         —         106           Pre-Environmental Science (PENS)         16         26         —         42           Pre-Engineering (PN)         234         51         —         285           Pre-Forestry Engineering (PPYE)         11         2         —         13           Pre-Geological Engineering (PIE)         —         1         —         13           Pre-Industrial Engineering (PIE)         9         13         —         22           Pre-Materials Engineering (PMTL)         6         2         —         8           Pre-Mechanical Engineering (PME)         91         13         —         104           Pre-Textille Chemistry (PTC)         12         4         —         16           Pre-Textille Engineering (PTE)         32         16         —         48           Pre-Textille Management and Technology (PTMT)         5         6         —         11           Textile Engineering (TE)         15         15         —         30           Textile Engineering (TE)         15         15         —         30      <				-	-	
Pre-Electrical Engineering (PEE)         93         13         —         106           Pre-Environmental Science (PENS)         16         26         —         42           Pre-Engineering (PN)         234         51         —         285           Pre-Forestry Engineering (PFYE)         11         2         —         13           Pre-Geological Engineering (PIE)         —         1         —         1           Pre-Industrial Engineering (PIE)         9         13         —         1           Pre-Industrial Engineering (PIE)         9         13         —         1           Pre-Materials Engineering (PIE)         91         13         —         104           Pre-Mechanical Engineering (PME)         91         13         —         104           Pre-Textille Chemistry (PTC)         12         4         —         -         8           Pre-Textille Engineering (PTE)         32         16         —         -         16           Pre-Textille Engineering (PTE)         3         2         6         —         -         11           Textile Engineering (PTC)         5         6         —         11         -         3         —         3         - <td></td> <td></td> <td></td> <td>-</td> <td>-</td> <td></td>				-	-	
Pre-Environmental Science (PENS)				-	-	
Pre-Engineering (PN)         234         51         —         285           Pre-Forestry Engineering (PFYE)         11         2         —         13           Pre-Geological Engineering (PIE)         —         1         —         —         1           Pre-Industrial Engineering (PIE)         9         13         —         22           Pre-Materials Engineering (PMTL)         6         2         —         8           Pre-Mechanical Engineering (PME)         91         13         —         104           Pre-Textille Chemistry (PTC)         12         4         —         16           Pre-Textille Engineering (PTE)         32         16         —         48           Pre-Textille Engineering (PTE)         32         16         —         48           Pre-Textille Management and Technology (PTMT)         5         6         —         11           Textile Engineering (TE)         15         15         —         30           Textile Management and Technology (TMT)         14         6         —         20           TOTAL ENGINEERING         2,709         744         533         98         4,084           SCHOOL OF FORESTRY           Fores				-		
Pre-Forestry Engineering (PFYE)         11         2         —         13           Pre-Geological Engineering (PIE)         9         13         —         22           Pre-Industrial Engineering (PIE)         9         13         —         22           Pre-Materials Engineering (PMTL)         6         2         —         8           Pre-Mechanical Engineering (PME)         91         13         —         104           Pre-Textille Chemistry (PTC)         12         4         —         16           Pre-Textille Engineering (PTE)         32         16         —         48           Pre-Textille Management and Technology (PTMT)         5         6         —         11           Textile Chemistry (TC)         —         3         —         3         —         3           Textile Engineering (TE)         15         15         —         3         —         3         —         11         1         —         3         —         3         —         3         —         11         1         —         3         —         —         3         —         3         —         3         —         3         —         3         —         3						
Pre-Geological Engineering (PIE)         1         -         1           Pre-Industrial Engineering (PIE)         9         13         -         22           Pre-Metarials Engineering (PMTL)         6         2         -         8           Pre-Mechanical Engineering (PME)         91         13         -         104           Pre-Textile Chemistry (PTC)         12         4         -         16           Pre-Textile Engineering (PTE)         32         16         -         48           Pre-Textile Management and Technology (PTMT)         5         6         -         11           Textile Chemistry (TC)         -         3         -         -         3           Textile Chemistry (TC)         -         3         -         -         3           Textile Engineering (TE)         15         5         -         -         11           Textile Engineering (TE)         15         5         -         -         3           Textile Engineering (TE)         14         6         -         20           TOTAL ENGINEERING         2,709         744         533         98         4,084           SCHOOL OF FORESTRY           Forest Products (FP)						
Pre-Industrial Engineering (PIE)         9         13         —         22           Pre-Materials Engineering (PMTL)         6         2         —         8           Pre-Mechanical Engineering (PME)         91         13         —         104           Pre-Textile Chemistry (PTC)         12         4         —         16           Pre-Textile Engineering (PTE)         32         16         —         48           Pre-Textile Management and Technology (PTMT)         5         6         —         11           Textile Chemistry (TC)         —         3         —         —         3           Textile Engineering (TE)         15         15         —         30           Textile Management and Technology (TMT)         14         6         —         20           TOTAL ENGINEERING         2,709         744         533         98         4,084           SCHOOL OF FORESTRY           Forest Products (FP)         —         —         1         —         1           Forestry Operations (FYO)         41         1         —         48           Forestry Resources (FYR)         61         4         —         65           Pre-Forestry (PFY)				-	-	
Pre-Mechanical Engineering (PME)         91         13         —         104           Pre-Textille Chemistry (PTC)         12         4         —         —         18           Pre-Textille Engineering (PTE)         32         16         —         —         48           Pre-Textille Management and Technology (PTMT)         5         6         —         —         11           Textile Chemistry (TC)         —         3         —         —         3           Textile Engineering (TE)         15         15         —         —         3           Textile Engineering (TE)         14         6         —         —         3           Textile Management and Technology (TMT)         14         6         —         —         20           TOTAL ENGINEERING         2,709         744         533         98         4,084           SCHOOL OF FORESTRY           Forest Products (FP)         —         —         1         —         1           Forest Products (FP)         —         —         32         14         48           Forestry Operations (FYO)         41         1         —         45           Forestry Resources (FYR)         61	Pre-Industrial Engineering (PIE)	9		-	_	
Pre-Textile Chemistry (PTC)         12         4         —         16           Pre-Textile Engineering (PTE)         32         16         —         48           Pre-Textile Management and Technology (PTMT)         5         6         —         11           Textile Chemistry (TC)         —         3         —         3           Textile Engineering (TE)         15         15         —         30           Textile Management and Technology (TMT)         14         6         —         20           TOTAL ENGINEERING         2,709         744         533         98         4,084           SCHOOL OF FORESTRY           Forest Products (FP)         —         —         1         —         1           Forest Management (FY)         2         —         32         14         48           Forestry Operations (FYO)         41         1         —         42           Forestry Resources (FYR)         61         4         —         65           Pre-Forestry (PFY)         75         11         —         86			3.70	-	-	
Pre-Textile Engineering (PTE)         32         16         —         48           Pre-Textile Management and Technology (PTMT)         5         6         —         —         11           Textile Chemistry (TC)         —         3         —         —         3           Textile Engineering (TE)         15         15         —         —         30           Textile Management and Technology (TMT)         14         6         —         —         20           TOTAL ENGINEERING         2,709         744         533         98         4,084           SCHOOL OF FORESTRY           Forest Products (FP)         —         —         1         —         1           Forest Management (FY)         2         —         32         14         48           Forestry Operations (FYO)         41         1         —         45           Forestry Resources (FYR)         61         4         —         65           Pre-Forestry (PFY)         75         11         —         86				-	-	
Pre-Textile Management and Technology (PTMT)         5         6         —         —         11           Textile Chemistry (TC)         —         3         —         —         3           Textile Engineering (TE)         15         15         —         —         30           Textile Management and Technology (TMT)         14         6         —         —         20           TOTAL ENGINEERING         2,709         744         533         98         4,084           SCHOOL OF FORESTRY           Forest Products (FP)         —         —         1         —         1           Forest Management (FY)         2         —         32         14         48           Forestry Operations (FYO)         41         1         —         42           Forestry Resources (FYR)         61         4         —         —         65           Pre-Forestry (PFY)         75         11         —         86				-	-	
Textile Chemistry (TC)				-	-	
Textile Engineering (TE)					1	
Textile Management and Technology (TMT)				_	_	
SCHOOL OF FORESTRY           Forest Products (FP)         —         —         1         —         1           Forest Management (FY)         —         2         —         32         14         48           Forestry Operations (FYO)         —         41         1         —         —         42           Forestry Resources (FYR)         —         61         4         —         —         65           Pre-Forestry (PFY)         —         75         11         —         86	Textile Management and Technology (TMT)	14	6	-	-	20
Forest Products (FP)     —     1     —     1       Forest Management (FY)     2     —     32     14     48       Forestry Operations (FYO)     41     1     —     42       Forestry Resources (FYR)     61     4     —     65       Pre-Forestry (PFY)     75     11     —     86	TOTAL ENGINEERING	2,709	744	533	98	4,084
Forest Management (FY)       2       -       32       14       48         Forestry Operations (FYO)       41       1       -       -       42         Forestry Resources (FYR)       61       4       -       -       65         Pre-Forestry (PFY)       75       11       -       86				-		
Forestry Operations (FYO)       41       1       -       -       42         Forestry Resources (FYR)       61       4       -       -       65         Pre-Forestry (PFY)       75       11       -       86					44	30
Forestry Resources (FYR)       61       4       -       65         Pre-Forestry (PFY)       75       11       -       86			4	32	14	
Pre-Forestry (PFY)				-	-	
				-	-	
				33	14	

Curriculum		uate & 1st Prof.	Gra Male	duate	Total	
	Male Female			Female	a Total	
SCHOOL OF H						
Apparel and Textiles (APT)		13	2	9	15	
Consumer and Family Economics (CFE)		-	3	-	1	
Family and Child Development (FCD)		158	11	40	225	
Fashion Merchandising (FM)	2	-88	-	-	90	
Hotel and Restaurant Management (HRM)		51	-	-	105	
Interior Environments (INE)		104 96	10	19	108	
Nutrition and Food Science (NFS)		510	23	68	694	
			20	00	004	
COLLEGE OF					00	
Anthropology (ANT)	26	13	11	24	39 196	
Communication (COM)	4	70	1	49	124	
Corporate Journalism (JMC)	11	17	-	-	28	
Criminal Justice (CJ)		19	-	-	55	
Criminal Justice-Offender Rehabilitation (CJO)		4	-	-	7	
Criminal Justice - Spanish (CJSP)	2	2	-	-	4	
Criminal Justice-Youth (CJY)	6	6 34	-	-	12 70	
Criminology (CR) English (EH)		94	28	40	233	
French (FR, FLF)		6	2	7	17	
General Curriculum - Art (ATLA)		22	-	-	31	
General Curriculum - Economics (ECLA)	47	9	-	-	56	
General Curriculum - Music (MULA)		3	-	-	7	
General Curriculum - Theatre (THLA)		28 749	-		47	
General Curriculum - Undeclared (CLA)		6			1,559	
Geography (GY)	2	2	-	_	4	
Health Administration (HA)	2	14	-	-	16	
Health Services Administration (HSA)	37	61	-	-	98	
Health Systems Administration (HSM)		5	-	-	8	
History (HY)		36	50	20	202	
International Trade - French (FRT)		15			19	
International Trade - German (GRT)	9	9	-		17	
Journalism (JM)	43	59	_	_	102	
Law Enforcement (CJL)	83	22	-	-	105	
Philosophy (PA)		2	-	-	7	
Political Science (PO)		76	9	5	209	
Pre-Law Psychology (PG)	464	380	46	86	853	
Public Administration (PUB)	18	11	15	14	58	
Public Relations (PR)		84	_	-	116	
Radio Television & Film (RTF)		88	-	-	161	
Religion (RL)	4	5	-	-	9	
Russian Studies (RUS)	2		-	-	2	
Social Work (SW)	6	47 17		- 3	53 26	
Sociology (SOC)		10	9	13	40	
School of Fine Arts	nionononone V	10		119		
Art (AT)	79	100	2	5	186	
Music (MU)		6	1	4	22	
Theatre (TH)	4	7	-	7.5	11	
TOTAL LIBERAL ARTS	1,995	2,223	174	247	4,649	
SCHOOL	F NURSING					
Nursing (NUR)	25	146	-	-	171	
Pre-Nursing (NS)	57	298	-	-	355	
TOTAL NURSING	82	444	-	-	526	
SCHOOL O	PHARMACY	1				
Doctor of Pharmacy (PYD)	6	17	-	-	23	
Pharmacy (PY) (PYS)		201	17	9	321	
Pharmacy Care Systems (PCS)		-	1	2	3	
Friatiliacy Gare Systems (1 GG)	100	218	18	11	347	
TOTAL PHARMACY						
TOTAL PHARMACY	ES AND MAT	HEMATICS				
COLLEGE OF SCIENC  Applied Discrete Mathematics (ADM)	ES AND MAT	5	_	-	16	
COLLEGE OF SCIENC Applied Discrete Mathematics (ADM)	ES AND MAT	5 11	=	3	25	
COLLEGE OF SCIENC Applied Discrete Mathematics (ADM) Applied Mathematics (AMH) Biochemistry (BCH)	ES AND MAT 11 14	5 11 17		17	25 33	
COLLEGE OF SCIENC Applied Discrete Mathematics (ADM)	ES AND MAT 11 14 16	5 11		- - 6 23	25	

Curriculum	Undergrade	uate & 1st Prof.	Gra	duate	
	Male	Female	Male	Female	Total
Earth Science (GES)		7	-	-	9
General Curriculum - Undeclared (GSM)		67	-	-	137
Geology (GL)	24	9	16	7	56
Laboratory Technology (LT)	6	14	-	-	20
Marine Biology (MRB)		72	-		116
Mathematics (MH)	22	32	35	18	107
Medical Technology (MDT)		26	-	-	40
Microbiology (MB)	36	35	9	6	86
Molecular Biology (MOB)	14	12	-	-	26
Physics (PS)	30	1	44	3	78
Pre-Dentistry (PD)		13	-	-	47
Pre-Medicine (PM)	238	232	-		470
Pre-Occupational Therapy (OT)	minimonis I	13		-	14
Pre-Optometry (OP)		16			34
Pre-Pharmacy (PPY)	98	226	-		324
Pre-Physical Therapy (PT)		108	-		150
Pre-Veterinary Medicine (PV)		155	-	4	252
Wildlife Science (WL)	64	47	17		132
Zoology (ZY)		34	30	17	109
TOTAL SCIENCES AND MATHEMATICS	960	1,176	230	105	2,471
COLLEGE OF VET	ERINARY ME	DICINE			
Anatomy and Histology (VAH)		-	_	1	1
Biomedical Sciences (BMS)		-	18	12	30
Large Animal Surgery and Medicine (VLA)	LORGO CONTROL -	-	5	3	8
Pathobiology (VPB)	-	-	2	6	8
Physiology and Pharmacology (VPH)		-	2	3	5
Radiology (VR)		-	-	1	1
Small Animal Surgery and Medicine (VSA)		-	3	4	7
Veterinary Medicine (VM)	160	196	-	-	356
TOTAL VETERINARY MEDICINE	160	196	30	30	416
INTERDEPARTME	NTAL PROG	RAMS			
Physiology (IP)			1	4	5
Sociology (SY)	-	-	7	10	17
Textile Science (TS)			7	5	12
TOTAL INTERDEPARTMENTAL		1	15	19	34
TRANSIENTS	AND AUDITO	De			
177111111111111111111111111111111111111			10	38	96
Transients and Auditors (AUD) (TR)		13	15		
TOTAL TRANSIENTS AND AUDITORS	30	13	15	38	96
ALL UN	IVERSITY				
GRAND TOTAL	9,681	8,425	1.797	1,323	21,226
SUMMARY BY	CLASS LEV	EL			
Freshmen	2 442	2,402	_	-	4.844
Sophomores	1 032	1,817	_	-	3.749
Juniors	2 185	1,871		_	4,056
Seniors		2,150	_		5,103
Fith Year		81	_	-	142
Other Undergraduates and 1st Professionals	108	104	-	-	212
Master's	-		1.090	875	1,965
Educational Specialists		-	4	12	16
Doctoral		-	670	380	1,050
Other Graduates		-	33	56	89
GRAND TOTAL		8.425	1.797	1,323	21,226
GRAND TOTAL DESCRIPTION OF THE PROPERTY OF THE		0,420	11000	1,000	2.,,220

## Enrollment By Alabama Counties - Fall Quarter, 1994

County	Male	Female	Total	County	Male	Female	Total
Autauga	68	45	113			166	384
Baldwin	205	159	364	Jackson			110
Barbour	90	59	149	Jefferson	1,085	1,006	2,091
Bibb	7	7	14	Lamar	5	9	14
Blount	36	36	72	Lauderdale			
Bullock	19	14	33	Lawrence	21	22	43
Butler	31	26	57	Lee	805	797	1,602
Calhoun	181	134	315	Limestone			
Chambers	95	79	174	Lowndes	9	9	18
Cherokee				Macon	34	57	91
Chilton	32	26	58	Madison	491	389	880
Choctaw				Marengo	45	20	65
Clarke				Marion	28	17	45
Clav			65	Marshall			
Clebume			36	Mobile	346	328	674
Coffee	115	94	209	Monroe	47	40	87
Colbert	47	27	74	Montgomery	581	483	1,064
Conecuh			17	Morgan	184	149	333
Coosa			23	Perry	18	8	26
Covington	73			Pickens	3	3	6
Crenshaw	20	19	39	Pike	37	34	71
Cullman				Randolph			
		54		Russell	81	75	156
Dallas				St. Clair			
DeKalb				Shelby	152	139	291
Elmore				Sumter			
Escambia				Talladega			
Etowah			248	Tallapoosa			
Fayette	18	14	32	Tuscaloosa			
Franklin	30	14		Walker	53	42	95
Geneva	36	33	69	Washington			
Greene				Wilcox			
Hale	10	5	15	Winston			
Henry	38	44	82	TOTAL			
nenry	JO			TOTAL	THE PARTY OF THE	9,340	12,301

Total	Female	Male	State	Total	Female	Male	State
			New Jersey	11	3	8	Alaska
9	4	5	New Mexico	27	10	17	Arizona
144	61	83	New York	57	24	33	Arkansas
130	57	73	North Carolina	138	53	85	California
			North Dakota	42	22	20	Colorado
115	52	63	Ohio	40	19	21	Connecticut
32	17 ,,,,	15	Oklahoma	11	3	8	Delaware
19	12	7	Oregon	4	2	nbia 2	District of Colu
101	49	52	Pennsylvania	1,376	676	700	Florida
12	3	9	Rhode Island	2,365	1,168	1.197	Georgia
239	90	149	South Carolina	8	4	4	Hawaii
11	5	6	South Dakota	12	2	10	Idaho
709	365	344	Tennessee	112	57	55	Illinois
205	94	111	Texas	59	32	27	Indiana
14	2	12	Utah	14	5	9	lowa
	1	2	Vermont	22	11	11	Kansas
			Virginia	284	134	150	Kentucky
	5	9	Washington	284	143	141	Louisiana
20	9	11	West Virginia	15	4	11	Maine
39	20	19	Wisconsin	106	47	59	Maryland
	0	2	Wyoming	37	14	23	Massachusetts
1	0	1	AP/UPO	58	29	29	Michigan
			TOTAL	24	9	15	Minnesota
7.576	3.610	3.966	Other States	183	81	102	Mississippi
			All States	63	33	30	Missouri
	and Possessi			7	3	4	Montana
	0	3	Puerto Rico	12	3	9	Nebraska
			Virgin Islands	8	2	6	Nevada
			TOTAL	11	5	6	New Hampshire

## Enrollment By Foreign Country - Fall Quarter, 1994

Country	Male	Female	Total	Country	Male	Female	Total
Argentina				Lebanon			
Australia	3	1,,,,	4	Liberia	1	0	1
Austria	0	1	1	Madagascar			
Bahamas	2	3	5	Malaysia			
Bangladesh	4	0	4	Mali	1	2	3
Belgium	1	2		Mexico	6	1	7
Belize				Morocco			
Benin	1	0	1	Mozambique .	1	1	2
Bermuda				Nepal	8	0	8
Botswana	1	0	1	Netherlands	2	2	4
Brazil	8	1	9	New Zealand .	1	0	1
Burma	1	0	1	Nicaragua	1	0	1
Camaroon	1	0	1	Nigeria			
Canada	13	8	21	Pakistan	3	0	3
Cape Verde	0	1	1	Panama	2	0	2
Chile				Paraguay	0	1	1
China (PRC)	109	45	154	Philippine Islan			
Colombia				Poland			
Congo				Portugal			
Costa Rica				Rumania			
Croatia	1	0	1	Rwanda			
Dominican Rep	ublic 0	1	1	Senegal	1	0	1
El Salvador				Singapore			
England	1	0	1	South Africa			
Egypt				Soviet Union			
France				Spain	12	0	12
Germany	8	8	16	Sri Lanka			
Ghana				Suriname			
Greece				Sweden	2	1	3
Honduras	1	0	1	Switzerland			
Hong Kong	1	3	4	Taiwan			
Iceland				Thailand	7	7	14
India				Trinidad	1	1	2
Indonesia	7	3	10	Turkey	8	1	9
Ireland	1	0	1	Uganda			
Italy				Ukraine			
Ivory Coast				United Kingdo			
Jamaica				Uruguay			
Japan	9	5	14	Venezuela	2	1	3
Jordan				Zambia			
Kenya		1100001100001100.7.1000		- A LOS GUINNI			
Korea				TOTAL			
Kuwait				Foreign Stude	nts 495	188	683
			Contraction .				

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